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LECTURES BY M. DE BLAINVILLE ON COMPARATIVE OSTEOLOGY.

THE

COMPARATIVE OSTEOGRAPHY

OF THE

SKELETON AND DENTAR SYSTEM,

IN THE FIVE CLASSES OF

VERTEBRAL ANIMALS,

RECENT AND FOSSIL.

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WITH GRAPHIC DELINEATIONS BY M. WERNER.

EDITED (FROM THE FRENCH) AND

ADDITIONALLY ILLUSTRATED

WITH NUMEROUS NOTES, OBSERVATIONS, AND DRAWINGS,

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THE MAMMALIA—(*continued*).

The Detection of Absent Bones.

Unquestionably there exists an appreciable harmony as to number, form, position, and proportions, between all the solid organs which enter into the composition of the skeleton of every vertebrate animal, but especially in that of the mammalia. In a word, a combination whose result must permit, in the living animal, a particular kind of locomotion; so that one may foresee, within certain limitations, by means of physiological knowledge, that certain osteographical peculiarities exist in the skeleton of any particular animal, and, *vice versa*, from the skeleton might be predicted the physiological facts. This observation could have escaped no one since the time of Galen to the present day; but to believe that the science of osteography is sufficiently advanced, or can ever be so, to enable us ever to reach such a degree of pre-vision—even granting that it will ever be susceptible of so much accuracy—that a single bone, or a single facette of a bone, being examined, it would be possible for any person to re-construct or pourtray the whole skeleton, and afterwards add to it the remainder of the organisation of the animal to which the bone had belonged, is to encourage a pretension which will appear the more exaggerated and the more extraordinary in proportion as any one may himself have studied the science, as well *à priori* as *à posteriori*. In my opinion, no one has ever made good this pretension.* No doubt there are some persons who believe that they have accomplished this discovery, when, having a certain bone of one unknown animal, which bone is closely related to that of another animal of an ordinary and perfectly well-known form, and whose skeleton is before their eyes, they foresee what *ought* to be the form of that portion of the bones which should be in connection with it. But beyond this all pre-vision becomes entirely conjectural, provided the bone in question—that is the bone which is submitted for inspection—has not been one of those bones which are characteristic of certain families; such, for example, as the antragalus, in ruminants, whose skeleton has a remarkable similitude, and is conjoined uniformly, with a dentar system and a digestive apparatus, which are quite peculiar; but even in this case, the very astragalus in question could not—besides the proportion of the other bones, which it most certainly does not give—ever lead us to determine if there existed *spurs;* that is to say, rudiments of a pair of fingers or toes, a complete fibula; or an ulna, equally complete; or canine teeth in the upper jaw; or whether the frontal bones were or were not provided with offensive arms, and, if it were, whether they resembled *horns*, properly so called, or *antlers*; and, again, whether they formed one pair or two pairs.

But, if in a family which is so natural, forming, as it were, a block or mass, that is to say, where the series is so little manifest, it be absolutely impossible to deduce from the examination of a bone, even from one so peculiar as the astragalus of ruminants, any of the peculiarities which I have just enumerated, how much more difficult would

* See note page 222.

it be if we had chosen our example in a family where the *degradation* is more or less marked; and especially in those kinds of animals whose locomotive apparatus presents evident anomalies in certain parts? I may here affirm, that from the consideration of a bone that is chosen even at will, it would be impossible to reach an exact knowledge, even of the bones that were in immediate contact with it, much less of the whole organisation of the animal.

Of all the bones composing the skeleton of the magot (*Inuus*, Cuv.) where is that bone, excepting the sacrum, from which you could deduce that the animal had no tail, while most of the other cynopethèci (pouched monkies) have often a very long tail? It is even worthy of remark, that the lumbar vertebræ have their transverse processes as much turned forwards as in the cynopethèci (pouched monkies).

What bone, if it be not the trapezoid, could lead you to be assured that a guenon, of the division colobus (*Geoff.*), or a sapajon, of the division atèles, had no thumb?

What part in the limbs of a sloth could, on inspection, enable you to predict whether the animal had seven, eight, or nine cervical vertebræ? And provided you had in your possession only the head of the radius in this animal, would that enable you to conjecture the singular form of its hand, or the number of its fingers?

Try and foretell the form and proportion of the strangely-formed fingers of the armadillo, from an inspection of one of them?

The bats, like the moles, have a sternum provided with a sort of longitudinal crest, intended to augment the size of the great pectoral muscle, and to increase its action upon the arm; but can you divine from this the form of the humerus in either? Or, still better, the form of the scapula, so broad in the one, so narrow in the other? Try the experiment, and you will fall into incredible errors.

From the humerus, so singularly shaped in the mole, try to conjecture the form of its scapula.

Say from what part, in the construction of the hand, you could predict the presence of a foramen near the internal condyle of the humerus, in this or that group of the carnivora; or foretell its absence in others that are closely allied to them.

You will look in vain for any relation between the peculiarity which exists in all the didelphi, without exception, and the coexistence of marsupial bones, in like manner uniformly present in this sub class.

If, still and still more in the wrong, you pretend to find a relation of co-existence between the dentar system and the skeleton, by what means could you conjecture, from an inspection of the skeleton of the large-eared dog of the Cape of Good Hope, that it had a dentar system so different from that of other dogs, both as regards form and number?

What relation is there between the dentar system of the dasyuri, so carnivorous, and that of the phascolomb, which is completely rodent? And yet the condyle of the lower jaw is neither more nor less transverse in the one than in the other.

What peculiarity in any bone of the anterior limb of a carnivorous animal would enable you to foretell whether the animal had a clavicle or not, or whether the bone of the penis was present or absent?

Try to determine the number of fingers by that of the toes, and *vice versa*, and at every moment you will fall into error.

From a conviction, acquired as well *à priori* as *à posteriori*, that is to say, by an oft-repeated experience, that a portion of the skeleton of one of the vertebrata can do no more, at the very most, than lead us to conjecture the form of that portion of the bone which was in immediate articular contact with it; this conviction has induced me to forego troubling you with long tables of the measurements of bones, as most osteographical writers have done since the time of Daubenton. In fact, I am certain that these calculations lead to nothing that is important. Unquestionably one may readily conceive that there exist harmonic or proportional relations between the portions of the same skeleton; but still the relation is within limits that are too wide to admit of the possibility, by means of the measurement of one bone, to determine that of some other bone which is more or less distant. Individual skeletons, although few in number of a living species, show the futility of such measurements, pushed even to millimetrés. On this account I have thought it preferable to give a certain number of lengths in relation with the vertebral column, for example, taken as a measure, and, even here, I have detailed only the more important ones.

Finally, and the observation is not without importance, I may remark here, that not only do the relative proportions of the bones of the skeleton vary with age, which is well known, and not only do they do so in early age, as compared with the proportions in the adult, but they vary in this respect even in old age. They vary also in the sexes, which is well known, the skeleton of the female being always more slender, feeble, and elongated.

But they vary also, and within much wider limits than is generally supposed, in individuals of the same age and sex, from causes which, without doubt, are in part inappreciable, but which may be easily observed in their results; and this may be determined by inspection of our domestic animals, or of the wild kind of any country. More than two thousand years ago Aristotle remarked, with great truth, that animals

which inhabited difficult and mountainous regions became stronger and more robust than others; and as this force and vigour depend on the bones, it is easy to see what differences they ought to present. In fact, our collections of animals, living and dead, and our collection of skeletons, afford the most complete demonstration of these numerous important variations, as any one may ascertain who has the slightest doubts upon the subject.

However, our delineations being made by means of the diagraph, an instrument which works almost mathematically, it would be easy to ascertain the proportional lengths by means of a compass and foot-rule, since in all cases when the figures deviate from the natural size, the amount of reduction or of increase will be carefully given on the present occasion.

It is certainly in the class mammalia that the bones of the skeleton experience from age the most variations, and that under almost every relation which we have considered; that is to say, as well with respect to chemical composition and anatomical construction, as the general form and proportion of each bone to itself, or considered in relation to others.

In youth the bones are much less solid, much less earthy; they are proportionably shorter, larger, and more swollen, particularly at their extremities.

In adult age they acquire all the normal qualities of composition, form, and proportion. At the same time the processes, crests, impressions, foramina, canals, and cavities, become distinct.

In a more advanced age, towards the decline of life, the bones gain solidity and density, and the proportions of form change remarkably with respect to thickness. They become more robust, and the articular surfaces larger. Several sutures disappear completely, and all the prominences augment, become exaggerated and irregular, whilst the foramina, the canals, and the cavities diminish, and evidently have a tendency to fill up. All these observations must be always present in the mind of those who are desirous of making a suitable application of osteography to paleontology.

The Dermis. Dermatostea.

Amongst the mammalia, these solid parts occur only in the genus *dasypus* (armadillo), and in the sub-divisions of this genus, introduced in later times by zoologists, a genus forming a part of the sub-order of terrestrial edentata, and peculiar to South America.

It is in the dermis, or rather it is the dermis itself of the armadillo, that there occurs the incrustation with calcarious matter, divided into regular fragments, which constitutes the only dermoid bones that are met with in the class mammalia, and in such way that, by removing the calcarious salts that are deposited in the dermoid tissue, the integument becomes entirely flexible.

These dermoid bones vary in thickness, according to the species, and to the parts of the body, and have always a polygonal form, and are often square, or in parallelograms, but not unfrequently they are hexagonal in certain parts. More or less smooth and concave on their inner or adhering surface, they are always externally somewhat convex, and constantly ornamented with kinds of waved work in relief, whose form in some measure seems to characterise the species. Moreover, the most of these dermoid bones, particularly when in contact, are disposed very regularly, so as to form on the head and neck, and all the superior parts of the trunk, and even on the tail, a solid envelop, protecting the animal more or less from the verocity of its enemies.

In that part of our work which treats of the osteography of the terrestrial edentata, the order including the armadillos, I shall enter into more extended details with respect to these dermoid bones, the more especially because almost every day new fossil species are found in the deluvium and caverns of South America.

The Visible or External Bones. Phaneros (Phanerostea).

In the great class of vertebrate animals, the above kind of hard parts is limited to that which plays a more important part; in fact, to that division of it which, developed on the surface of the buccal envelop, and penetrating into the jaws, is named the *teeth*. And even here these parts are limited to the two first portions in the upper jaw, and to the horizontal branch of the lower jaw; that is to say, there are never any more than pre-maxillary and maxillary teeth above, and mandibular teeth below. We never find palatine, or posterior palatine teeth in the mammalia.

The teeth of the mammalia have another character, which is no less important than that which is derived from their position, consisting in this, that they are always double-coned, and implanted by one of the cones, viz., the root, into a corresponding depression in the supporting bone, such depressions being proportional to the cone so implanted. These are the alveoli.

Finally, the teeth of which we now speak are always arranged in a single marginal row, following each other more or less closely, and strictly resembling each other upon the two sides (right and left) above and below.

From what I have already said on the generalities of the organisation of this kind of solid parts, being drawn almost exclusively from their mode of arrangement in the mammalia, there is no occasion for us to return to it here, the more especially that I do not propose delivering a treatise on odontology. But, still, it is proper to offer a few

remarks with respect to their numerical differences, and more especially with respect to the different species or kinds of teeth, deduced from their form, position, and use.

The total number of the teeth in the mammalia is remarkably fixed, with the exception, however, of the edentata, animals whose organisation presents so many other irregularities; but they must be considered when completely developed, when their number will be found on no occasion to be considerable, since it never exceeds thirteen on each side of each jaw, the cetacea and armadillos always excepted.

These teeth, strictly resembling each other on the opposite sides of the same jaw, whilst they never do so completely with reference to both jaws, present differences in number even in the two jaws of the same individual. This difference in number may refer to the three principal kinds of teeth; that is to say, as well to the incisive, or premaxillary, as to the canine and molar. The relative position, however, of these three is constant, following each other in the order just enumerated.

Their arrangement, even, is pretty generally constant as to the manner in which the inferior are placed with respect to the superior. When the incisors, for example, are terminal, you will always find the lower placed behind the upper; but with respect to the canine and molar teeth, it is just the contrary, it being the inferior which is placed before the superior, and this is as constant with respect to the whole tooth as with regard to the divisions of the corona, when it is multi-cusped; but it is particularly in the form that the teeth of the mammalia offer most varieties, both as to each other, as to each species, and equally in the corona, and in the root.

The true incisors have never more than one root, varying in length, more or less conical or compressed, although in certain mammalia the corona may be deeply notched upon the cutting margin; it presents also numerous differences as to form.

The canine teeth, like the incisors, have but a single root generally, and a simple corona sufficiently, proportioned to each other; but these teeth present great differences as to form, being sometimes conical, or triangular, or much compressed, like a knife, and directed from before backwards.

Of the three kinds of teeth, the molar vary most in form. They may be either simple, like incisive and canine, both in the root and the corona, or differently complicated in both these parts, or, finally, becoming really complex, at least at a certain age; that is, actually formed of several teeth united.

With respect to the roots of these teeth, it may be said that they repeat, as it were, the peculiarities of the corona; that is, that under a large tubercle of the corona will be found a large root, and *vice versa*.

With respect to the corona, which, from the action of the lower teeth upon the upper, may, from being horizontal, acting like millstones, become vertical, and operate like scissor-blades, we may see how, in the first case, the tubercles, more or less marked, of the corona, will be as nearly equal as possible, which happens rarely. In fact, we much more frequently find that one of the edges of the teeth has a tendency to predominate. In the upper set the external, in the lower the internal; and then there is a commencement of the lateral crossing of the two sets.

To reach the maximum of this mutual crossing, it is sufficient to imagine that one of the edges of the corona increases, whilst the other diminishes, the whole tooth, in the meantime, thinning away. Then the lower teeth will place themselves entirely within the upper, or will cross them in a transverse sense, as they may also do longitudinally, constituting the carcharodontes of Aristotle.

A molar tooth may be, even in part (anteriorly, for example) thus altered, whilst the other part remains tuberculated.

These are the combinations, so varied, and yet so fixed, which give to the dentar system such importance in characterising species, and consequently are so in paleontology.

Out of these different considerations arise, first, the practice of distinguishing the molar teeth into *false* and *true* molar; the first anteriorly, the second posteriorly; the former more simple, the latter more complex. Afterwards, as in certain mammalia, there were evidently three kinds of molar teeth; the false, anteriorly; the true, behind; and a sort which is intermediate of these two, and, in that case, evidently cutting, or carnivorous. M. F. Cuvier introduced the consideration of these, by the name of *carnivorous*.

In my work, concerning the sequegualia of the teeth composing the dentar system, I have been forced to abandon this classification of the molar teeth of the mammalia, and to establish another, viewing them simply, as divided into anterior molar, principal, and posterior molar, altogether disregarding whether they be simple or complex, cutting or tuberculated. Thus, to take man as an example, I admit that in him the dentar system is thus composed:—In each jaw, and on each side, two incisors, one canine, and five molar, of which there are two anterior molar, one principal, and two posterior molar. I use this formula, often, for brevity's sake:—

$\frac{2}{2}$ I + $\frac{1}{1}$ C + $\frac{5}{5}$ M of wh. $\frac{2}{2}$ an. m. + $\frac{1}{1}$ pr. + $\frac{2}{2}$ post. m.

To determine the principal molar in the dentar system of the mammalia, recourse must be had occasionally to considerations which are more or less indirect; but in the greater number of cases it may always be made out in the upper jaw, which is the

safest point to start from in determining the signification of the teeth, by viewing, as principal molar, that tooth which is implanted under the root of the zygomatic process of the maxillary bone, and which in man is certainly the strongest. Those in front will be the anterior molar, and those behind the posterior molar.

With respect to the lower jaw, it will be sufficient to cross the teeth in their natural position (*in situ*), to determine them. The tooth which crosses the principal molar tooth of the upper jaw, anteriorly, will form that in the lower, from *which* the anterior and posterior molar may be reckoned. Now, in man, reckoned in this way, it is still the largest, and, therefore, may be reckoned the principal of the five molars.

These brief considerations will suffice at present for the object I had in view.

The Bulbostea.

A third kind of hard parts is that which renders solid, in certain classes, the external envelop of the organs of sense, assuming the form of bulbs, such as the eye, and the internal ear, or labyrinth.

We have already seen that two kinds of these have only as yet been observed.

In the mammalia, the ocular bulb never presents those solid parts in the sclerotica which we find in birds, and in a certain number of the oviparous vertebrata. But the mammalia are, perhaps, the only animals of this great class in which the auditory bulb, the internal ear (or labyrinth) is doubled, or protected by a very hard osseous covering, peculiar in its nature, and varying in form, although for the most part pyramidal.

The petrous portion of the temporal bone has, in fact, a chemical composition which is analagous to the compact tissue of the bones of the skeleton, and in which the earthy matter greatly predominates over the organic. But besides this, its anatomical structure has a peculiar aspect, the cellular disposition being scarcely apparent, and the bone thus becomes brittle, like glass.

Its position is always the same, being inserted obliquely between the arches and bodies of the two last cephalic vertebræ, and the squamous root of the posterior cephalic appendage (lower jaw); whence it happens that in the progress of ossification, it is not only retained there, but also unites with the different portions of this appendage, so as to form, at last, a single bone, known by the name of *temporal;* and as this complex bone becomes an element in the formation of the cerebral cavity, it is generally described along with those bones which are peculiar to that cavity.

According to my plan and object, which are in no respect physiological, I shall describe this part, following the course that is usually adopted, and the more readily because the petrous portion itself is very rarely free and separate, and because the great diversity and form which it presents is not without its influence on the peculiarities of the cephalic vertebræ which surround it.

The Petrostea, or Internal Bones.

This kind of solid parts comprises those bodies that are deposited in the interior of the ocular and auditory bulbs, and differs from the preceding (Phaneros) only in the circumstance that in the petros the product is never *visible*, or external, whilst it is so in the phaneros. In the mammalia, moreover, being so constantly without consistence, it is not preserved in the bosom of the earth, and does not therefore come under the view of the paleontologist. In fact, the crystalline in the mammalia, although solid, at least in its central portion, and particularly in advanced age, is yet never sufficiently so as to admit of preservation during a considerable length of time, as happens to the crystalline of fishes.

This is still more certain with respect to the auditory bulb. I was the first to prove, in the mammalia, by a demonstration of the ear of the calf, and asserting it analogically with regard to man, that there existed in this class of animals a gelatinous rudiment of the stone in the ear of fishes, which M. Laurent verified, after having understood my assertion; but it would be idle to pretend to determine the form of the auditory petrostea in the mammalia.

The Enderos (Enderostea) or Profound Bones.

It is sufficiently curious that we find these bones only in this class of animals, the mammalia. Their chemical nature and anatomical structure are quite analogous to the bones of the skeleton, but their position is altogether profound, removed from the cutaneous and intestinal envelops, and this forms their principal character. As yet, two kinds only have been made out, differing from each other remarkably, not only by their position, in very different organs, the heart and the penis, but also by the irregular form which is characteristic of the bone of the heart, as opposed to the very regular and almost symmetrical form of the bone of the penis. In one respect they seem analogous, appertaining both to the circulating apparatus, the first being placed in the septum of the ventricles of the heart, the other in the septum of the corpus cavernosum of the penis.

With regard to the cervical bone in the mole, it ought rather to be considered as an intra fibrous sesamoid bone (an osteide), or as having some analogy with the intra muscular spines of fishes.

After having thus described what the mammalia offer generally, with respect to each sort of the hard parts which we have defined, I now proceed to enter on the spe-

cialities which form the principal object of my discourses, viewing the question in the great Linnæan genera, which have become the sole orders and families of modern mammalogists.

In fact, there is nothing in osteography to warrant our separating the sub-class of the *mammiferous monodelphi* from the two other sub-classes, if it be not in the complete absence of that pair of bones which are generally called *marsupial*, united to the anterior part of the posterior or pelvic girdle, to produce an abdominal muscular effort, as well as in the absence of the pre-ischion, which we shall find to appear in the sub-class of the ornithodelphi, and to persist through all the ovipara. In all the rest of the skeleton we know of nothing else which is peculiar to the monodelphi.

I may make the same remarks with regard to the other kinds of hard parts which are common to them, as the teeth. I shall proceed therefore, immediately to the study of the specialities in the solid or osseous system in the *primates* of Linnæus, comprising the four great genera of Buffon—*singes* (pithecus), *sapajous* (cebus), *makes* (lemur), and *paresseux* (bradypus), first the recent, next the fossil.

NOTE BY DR. KNOX.

As early as the year 1821, I denounced the pretensions alluded to at page 217, on the part of the Cuvierian school and its followers, as being without any foundation in truth; being, in fact, absolutely absurd. Subsequently,—in a series of lectures on comparative anatomy, delivered here to large and distinguished classes from the year 1825 to 1828, and afterwards in a memoir read to the Royal Society of Edinburgh, on the structnre of the digestive organs of the lama,—I endeavoured, to the utmost of my power, to stem the torrent of assertion, amounting to absolute nonsense, which had set in, in this country, on the subject. So many persons had studied, read, and got by rote the works of the great Cuvier, instead of the book of Nature,—so many had translated, copied, and appropriated his views to themselves,—and so extensive, indeed, had the Cuvierian mania and party become in this country, that to doubt the correctness of any of the views of Cuvier amounted to a personal attack upon thousands of his satellites, who thought only through and by means of him, and who, in fact, placed him precisely in the same position as the Monkish writers of the middle ages placed Aristotle. The reflecting reader, it is hoped, will be gratified in finding common sense and truth again vindicated by the powerful pen of M. De Blainville. All that has been said may be admitted without in the slightest degree detracting from the great merits of M. G. Cuvier, whose masterly exposition of the errors of geologists of his day would alone entitle him to the thanks of all posterity. I think it right, also, to add, in justice to this great man, that he himself, in conversation, never carried such pretensions beyond a fair and reasonable limit. It is in Britain, where almost universally Cuvier's writings have been subsituted for the book of Nature, that we find the best specimens of the manifold absurdities which are so happily criticised by M. De Blainville.

COURSE OF LECTURES
ON THE
PHYSIOLOGY AND PATHOLOGY OF THE BLOOD,
AND
THE OTHER ANIMAL FLUIDS,
DELIVERED IN THE SESSION OF 1839-40,
AT THE
School of Anatomy adjoining St. George's Hospital,
By HENRY ANCELL, Esq., Surgeon.

Lecture 3.—*Blood described: its chemical history.—Elementary constituents.—Tables of analyses, by M. Le Canu and M. P. Denis.—Specific gravity: practical importance of attending to it.—Proximate principles considered seriatim.—Gases in a free state: Dr. Davy's experiments.—Aqueous part of the blood: its variability in different constitutions.—Albumen: liquid; solid.—Fibrin: mode of separating and determining its quantity.—Necessity for further experiments on the albumen and fibrin of the blood.—Albuminous part of the clot.—Quantitive differences in the proximate principles of blood.*

Gentlemen:—In my last lecture I described the chyle, concluding with a few observations on indigestion. I ought to-day, perhaps, to call your attention to the subject of the fluids, distinct from the chyle, which are absorbed from the alimentary canal, and taken directly into the blood. This absorption was for a long time denied by physiologists, and has only of late been again recognised. I propose, for the present, to refer you to the last volume but one of The Lancet, p. 718, for my views on this part of the alimentary function, and its connection with diseases of the liver, and will therefore proceed at once to the consideration of the blood. Our first care will be to ascertain the physical and chemical characters of dead blood.

Blood, when drawn from the living body, is an adhesive fluid; homogeneous to the naked eye in appearance and consistence; of a red colour, saline and sweetish taste, and faint peculiar odour; in temperature about 98° Fahrenheit. Immediately after it leaves its vessels, it gives out a fine vapour or *halitus*. If suffered to remain undisturbed under ordinary circumstances

it coagulates in the space of a few minutes, and as this process advances, it separates into two distinct parts—a red mass floating in a yellowish fluid. The fluid part is called the *serum*, and the red part *clot*, cruor or crassamentum.

The opportunities to procure arterial blood in a state of purity, for the purposes of experiment, are very few, and since the arterial blood of the hand does not pass through any secretory organ before it reaches the veins, the fluid procured from the veins at the bend of the arm, is usually taken as the type of venous blood in its most simple state, and it is this which is always meant when blood is spoken of generally, or its properties described without any more special designation.

The elementary constituents of blood are twelve in number; viz. oxygen, hydrogen, carbon, azote, chlorine, phosphorus, sulphur, sodium, potassium, calcium, magnesium, and iron. A few other simple substances have been mentioned by particular individuals as occurring in very minute quantities; of these, manganese, copper, titanium, and silica, are the most important, but they are by no means admitted by chemists as usual constituents of human blood. It must be remembered that we are ignorant whether these reputed elements of matter are not themselves compound. By calling them elementary, it is only meant, that *chemists* have been unable to decompose them, and since in the living laboratory they are brought under the influence of a new power or powers, which surpass any that we can call into requisition in our ordinary laboratories, we must admit it to be possible, if not probable, that while endowed with vitality, they may be resolvable into other elementary forms, and particles still more simple, as well as into new and unknown combinations. I do not say that it is so, but the consideration is calculated to ensure caution in our inferences drawn from dead and applied to living matter, particularly as regards the complicated proximate principles which we shall presently have to consider. Very few observations have been made on the ultimate composition of the blood at different epochs of life; but an inference has been drawn that the proportion of azote increases as age advances.

The chemical elements above enumerated are found in the dead blood, and although considerable differences of opinion may exist among physiologists, as to the number and proportion of these principles, there is a general agreement, by which we have obtained a kind of standard. The natural separation of the parts of the blood, which I have mentioned, has greatly facilitated these chemical inquiries, and, upon the whole, the state of our knowledge in this respect, although by no means complete, is extremely creditable, to modern science and to those patient cultivators who have sedulously laboured in what has been generally regarded as an arid and uninviting soil.

TABLE I.

Mean composition of Human Venous Blood, from the Analyses of Berzelius, Marcet, Dumas, Prévost, Lassaigne, Denis, and Le Canu.

	Gases	Oxygen		
		Azote		
		Carbonic acid		
Serum	Extractive indeterminate and fatty matters.	Extractive matters ..		
		Phosphorated matter ..		
		Cholesterine		
		Serolino		
		Oleic acid free		
		Margaric acid		
	Saline	Hydroch. soda, potassa, and ammonia		10.980
		Carbon. soda, lime, and magnesia.		
		Phosphate soda, lime, and magnesia.		
		Sulphate potassa		
		Lactate of soda		
		Fatty acid salt		
		Volatile ——		
		Yellow colouring matter ..		
	Albuminous ..	Albumen		67.805
	Aqueous	Water		790.370
	Clot	Fibrine		2.948
		Hematosine		2.270
		Albumen		125.627
				1000.

TABLE II.

Composition of 1,000 *parts of Blood, Sp. Grs.* 1.050, *after coagulation. According to M. P. Denis.*

1000	Menstruum .. 825.397	A simple fluid 825.397		Water		825.397
=		An albuminous substance .. 71.095		Albumen ..		71.095
Serum 914.836 +	Substances dissolved or dry serum .. 89.439	Saline subs. .. 9.172		Soda		.917
				Sulphate potassa		.734
				——— soda		.734
				Phosphate soda		.367
				Chloride sodium		3.668
				Phosphate lime		.275
				Lime		.184
				Magnesia (traces)		
				Acid oleic ..		2.293
				—— margaric		
				—— volatile fatty		
		Neutral fatty substances .. 6.504		Seroline ..		1.084
				Cerebrine ..		5.420
				Cholesterine ..		
		Colouring subs. 2.668		Yellow biliary subs.		2.668
				Blue substance		
Clot 85.164	Coagula. subs. 2.272	Fibrinous subs. 2.272		Fibrin		2.272
	Envelopes .. 1.656	Red colouring substance .. 1.491		Hematosine ..		1.491
		Metallic subs... .165		Oxide of iron ..		165
	Nuclei .. 81.236	Albuminous sub. 81.236		Albumen ..		81.236
	1000.	1000.				1000.

In order to convey to your minds as much information as I can respecting these proximate principles, I place before you, in the first instance, the two most recently published Tables of the component parts of human blood; the first being the mean composition of venous blood, according to M. Le Canu, as contained in his work published in 1837; the second being the composition of one specimen of blood, taken from the numerous analyses recorded by M. Denis, in his important work on the subject, published in 1838. I have made some alterations in the arrangements of these principles, in order to place the composition of dead blood in the clearest point of view I can, and I intend to observe upon them *seriatim*, by which I hope to put you in possession of the main facts as well as the most important chemical opinions respecting them.

The analyses made by M. Le Canu himself have been copied into most of our works upon physiology, and inasmuch as we shall find the composition of blood to be variable, according to a great number of circumstances, notwithstanding the generally admitted accuracy of these analyses, I have thought it unnecessary to introduce them hear. The first circumstances to be attended to is,

The Specific Gravity of Blood.—This has been variously stated by different experimenters, and we should fall into error, if we were to assume any positive standard as capable of representing it. The fact is, the density of the blood is a quality which varies according to a great number of circumstances, and a knowledge of the specific gravity of any particular specimen, conveys the most important information respecting its composition. The following is a list of the different degrees of the density of this fluid which has been observed by different individuals:—

Blumenbach	1.050 to 1.054
Henry	1.053 „ 1.126
Bostock	1.050 „
Turner	1.050 „
Scudamore	1.053 „ 1.055
Denis	1,045 „ 1.069
Berzelius.....	1.052 „ 1.057
Thackrah	1.041 „
Prout	1.030 „ 1.055
Davy	1.038 „ 1.059

These figures represent the density of venous blood, no doubt procured under various circumstances, to which may in great part, be referred the differences which are exhibited. A source of error has been pointed out by Dr. Babington. The authorities quoted have omitted to give the temperature at which their observations were made, and as observed by the last-named gentleman; 40° of Fahrenheit's thermometer, making a difference of .001 in the specific weight of distilled water; if one specimen of blood is weighed immediately after it is drawn, at 98°, and another at 60°, the former will be .0095 lighter than the latter; and if this difference is not taken into the account, an error will occur in the figures to that amount. There is also no doubt that many of the individuals, the density of whose

blood is here represented, laboured under diseases, which must be considered among the causes of variation. Under all these circumstances, and making allowance for errors, we cannot but remark a great uniformity in the results; still there are manifest differences in the specific gravity of blood. Boyle inferred, from his own experiments, that it differs sensibly, according to age, sex, and constitution, and that it also varies in the same person, according to the period of the year and the time of the day at which it is drawn, and according to the greater or less distance from meals and divers others circumstances. Although very little attended to, these observations have, upon the whole, been confirmed by modern observers. It is important to know that blood changes in specific gravity only with changes in its composition, and we shall see, as we proceed, that some of its component variations are manifested by its degree of density. In fact, the density of blood gives more information than any other character, taken singly, not excepting the buffy coat itself. The most simple way of determining the specific gravity of blood is by means of the gravity bottle; but the 1,000 grain bottle in common use is less useful for medical purposes, on account of the quantity of fluid required, than one holding about 250 grains, and this should be submitted to a balance, which will weigh accurately to at least a fiftieth part of a grain.

Gases in the Blood.—In the mean analysis, drawn up by Le Canu, we find three gases enumerated among the proximate principles of blood, which gases are taken no account of in the analysis by M. Denis. It has been asserted and denied, again and again, that the blood contains one or more gases, either circulating with it in a free state, or in such a feeble state of combination as to be easily separable after its extravasation. Vogel had obtained carbonic acid gas from the blood, and Vauquelin observed that blood placed in hydrogen disengaged carbonic acid; but in consequence of the rapidity with which putrefaction commences in exposure of this fluid to the atmosphere, and the last-mentioned chemist not having attended to this circumstance, these observations were for a time set aside. Brande stated, in 1818, that both venous and arterial blood evolved about twice their bulk of carbonic acid under an exhausted receiver; but negative results were afterwards obtained by a great many chemists. In consequence of Dr. Stevens having instituted new experiments, by which he proved the affirmative of this question, and having given to it a greater importance than it formerly possessed, by his applications of it to the practice of medicine, in his Treatise on the Blood, it has excited much interest, and we are indebted to him, to Bauer, Edwards, Davy, and Magnus, for its farther elucidation.

The chief argument which has been advanced against the existence of carbonic acid in the blood, is the presumed existence of a free alkali in this fluid. It is thought contrary to all rules of chemical science, that a fluid should contain both a free alkali and a free acid, to which Dr. Stevens replies:—The alkaline reaction of blood does not depend on a free alkali, but on the alkaline carbonates, and that carbonic acid may very well exist in a free state with the alkaline carbonates. When the salts of the blood are before us, we shall see that there are very strong reasons for doubting altogether the existence of any free alkali in this fluid. M. Magnus has since published experiments, in which he obtained from blood, not only an appreciable quantity of carbonic acid, but also a portion of oxygen and azote, and Dr. Davy, in his last paper, published in the *Philosophical Transactions for* 1838, has shown that he succeeded in obtaining a disengagement of gas, both from arterial and venous blood. So much importance has been attached to this question, that I shall here describe the mode in which Dr. Davy proceeded in these experiments.

Exp.—Phials were filled with distilled water, deprived of air by the air pump. The stoppers were introduced, and they were instantly immersed in boiled distilled water. The jugular vein, or carotid artery, of a sheep was introduced into the prepared phial under water, the heavier blood displacing the water. When full, the phials were closed and replaced in the water. In some instances the blood was allowed to coagulate; in others it was prevented by detaching the fibrine, according to a process which will presently be described. These specimens of blood were submitted to the air-pump, half an hour after abstraction from the vessels. No appearance of the disengagement of air took place till the exhaustion was nearly complete; but at that time, both from arterial and venous blood, it was sudden, and sometimes considerable.

Dr. Davy thinks, upon the whole, that less gas was extricated from arterial than from venous blood. He observed that the air was extricated less readily when the blood was coagulated, and not at all if confined by a slight compressing force, as when tied in a detached portion of vein, or contained in the heart of an animal. In this latter case no distention took place under the receiver, from which it may be inferred, that a very slight compressing force is sufficient to prevent the air assuming an elastic state, and also that the quantity of air is small.

It is most important to remark, that these results had clear and decisive exceptions, so that Dr. Davy is induced to believe that the quantity of air condensed in the blood is variable. There are times when it is in excess, or deficiency, or totally wanting, "connected with regularly changing states of the

functional system." From these latter circumstances, and from imperfection in the instruments operated with, and the processes adopted, no doubt the discrepancies on this subject have arisen. Davy found, that when blood is placed in the receiver of an air-pump, under, and in contact with, a solution of carbonate of potassa, which has the property of absorbing carbonic acid, no gas is disengaged; while from the same kind of blood, taken under similar circumstances, and placed under water, there is a continued ascension of air bubbles.

Magnus obtained 10.4 per cent. per volume of mixed gas from arterial blood, and 7.6 per cent. from venous blood, composed as follows:—

	Arterial.	*Venous.*
Carbonic acid	6.5	5.5
Oxygen	2.4	1.1
Azote	1.5	1.
	10.4	7.6

There can be no doubt in any of our minds that it is most desirable this subject should be farther pursued. This is not the time to dwell upon the pathological considerations respecting the existence of gas in the blood. I shall only at present state, that in a most interesting paper, published by Dr. Davy during the present year, he has shown that the blood, in various diseases, contains an *excess* of gas, which was proved in several instances to be carbonic acid; and he is led by these experiments to infer, that this gas plays a very important part in the economy of life, and that its superabundance in the blood is connected, if not with the production of particular diseases, at least with their modification and progress, and the production of certain symptoms.

Aqueous part of the Blood.—I must, in the next place, call your attention to the water which blood always furnishes to the analytical chemist. It is highly probable that water exists in the blood with all its well-known properties; that it is introduced directly by intestinal venous absorption; mediately with the chyle, and directly or mediately by cutaneous absorption; that it is eliminated by the secretions, and by cutaneous and pulmonary transpiration; and that in this manner a just balance is maintained, the blood preserving the character peculiar to the individual. Although in former times vague opinions were entertained, that considerable constitutional differences exist with respect to the quantity of water which the blood of individuals contains, and in the different temperaments, we are indebted to modern chemistry for precise notions on the subject. M. Denis found that water varies in proportion to the other ingredients of the blood, from 842 parts to 744 parts, or nearly 100 in the 1,000. The average of a number of analyses, made by this physiologist, gives,

In children, very old people, debilitated, etiolated, and badly nourished individuals	835.4
In adults, in a healthy condition, with ordinary physical force, of a lymphatico-sanguine or sanguineo-nervous temperament.....	810.5
Very vigorous subjects, with great physical force, and a more or less decided sanguine temperament	777.8

M. Le Canu also agrees that there are very decided constitutional differences in mankind, as to the proportion of water in the blood. He found a difference of 74.5 parts in 1,000. The proportion of water is less in man than in woman by 29.8 parts in 1,000. In persons of the same sex, there is less water in the blood of those of a sanguine temperament than in that derived from individuals of a lymphatic temperament. Thus it appears that the expression *watery blood*, even as regards the physiological state of the system, is not a mere chimera. Not that the quality of the blood in this respect is to be taken alone, for we shall find, as we proceed, that this fluid is liable to concurrent modifications in its different qualities and principles, which are exponents of its different conditions during its vitality, and in different vital states of the animal fabric; and also that attention to these modifications is of the greatest consequence in the practice of medicine. It is important to remark, that, so far as observation at present extends, the proportion of water in the blood, in healthy persons, always corresponds with its specific gravity. If this observation should prove correct, and it is certainly corroborated by 31 careful analyses of the blood of different individuals made by M. Denis, how important will it be to take the specific gravity of blood in every instance that venesection has been performed. My opinion is, that, when a patient is bled, particularly in our public hospitals, the specific gravity ought at all times to be taken and recorded, and when the bulk of the facts which relate to the blood are before the public, in a kind of juxta-position, which they will be in due time, through the extensive circulation of THE LANCET, I hope to see this as one of its immediate effects.

For the purpose of ascertaining the proportion of water in the blood in a more direct manner, take a given quantity, say 3 to 500 grains; put it into a salt-water bath, such as I now show you, and evaporate to dryness. The loss of weight indicates the proportion of water. Where accuracy is required, however, the weight of one or two substances, which are volatile, and occur in small quantities in the blood, must be deducted from the actual loss of weight; and when a complete analysis of blood is to be made, the serum is evaporated, so as to ob-

tain the proportion of water and solid matters of which it is composed, and the proportion of water in the blood is then arrived at by calculation.

Albumen is, doubtless, one of the most important of the animal proximate principles. It is found, not only in the serum of the blood, but in the lymph and chyle, in the exhalations from serous surfaces, in the fluid of the cellular tissue, in the aqueous and vitreous humours of the eye, in many other animal fluids, and even in the organised solids. It occurs most frequently in the fluid form, or rather, in solution, but it is so easily rendered insoluble in water, and it has been found so difficult to determine what modification it then undergoes, that it has sometimes been regarded as capable of existing, both in the fluid and solid state, without any change of composition, and without the intervention of any foreign matter. In its liquid state in the serum of blood, it is always accompanied by a little soda, and in this state it is regarded by chemists as an *albuminate of soda*, and the soda has been looked upon as the cause of its liquidity. But Berzelius and Bostock found that the soda might be saturated with acetic acid without destroying the liquidity of the albumen; and, again, Denis finds that solid albumen cannot be liquified so as to assume the properties of serum, by treating it with a solution of soda. We must, therefore, relinquish the notion that the liquidity of albumen in the blood is owing to its combination with soda.

The most characteristic property of liquid albumen, is that of coagulating under the influence of various agencies, but never undergoing that process spontaneously. Thus caloric, at a temperature between 158° and 16,707°, occasions its coagulation, and it is then insoluble in water; but when a solution of albumen is evaporated at a temperature below 140°, the substance is left dry and transparent, and in that state remains soluble in water. Greatly diluted with water it coagulates at 212°, and a thousandth part of albumen renders water opaque on boiling. It is important to remark that albumen, derived from different sources, does not always exhibit the same properties, thus, differences have been pointed out between the albumen of the egg and that of man, by M. Magendie, in his lectures lately published in THE LANCET, and by other physiologists.

TABLE III.

The following Table exhibits the effects of various agents on liquid albumen:—

Alcohol.—Coagulates; if very dilute a portion separates after some hours standing.

Sulphuric Acid.—Coagulates; digested in strong S. A.; forms a dark solution similar to that produced in fibrin, but if the heat be applied cautiously, assumes a beautiful red colour.

Hydrochloric Acid.—Coagulates; one of the most delicate tests of its presence.

Nitric Acid.—Coagulates; by macerating for a month in dilute N. A., converted into a substance resembling gelatin.

Tannic Acid and Infusion of Galls.—Coagulates in a dense, tough precipitate.

Potassa and Soda.—Very concentrated solution coagulates; a large quantity of liquor potass coagulates a small quantity of serum.

Chlorine.—Coagulates.

Galvanism.—Coagulates instantly; pure soda appears at the negative, and albumen at the positive wire.

Metallic Salts.—*Bichloride of mercury*, prec. a milkiness produced by $\frac{1}{1000}$ part of albumen in water, said by Dr. Bostock to be the most discriminate test, as it appears to have no action on any other substance which is contained in the animal fluids. *Ferrocyanuret of potassium*, equally delicate, but the alkali must be previously neutralised with acetic acid. *Chloride of tin* and *iron*, *diacetate of lead*, *sulphate of alumina*, and other salts precipitate it, the metallic oxide uniting with the albumen. All these precipitates dissolve in excess of albumen, and most of them in excess of the metallic salt.

Acetic Acid.—Does not precipitate; Brande says coagulates under certain circumstances.

Pure Ether.—Does not precipitate.

Liquor Ammonia.—No coagulation.

Many substances coagulate albumen, and very few possess the property of liquefying it, or keeping it in a liquid state, and it has been remarked by Magendie and other chemists, that precisely the contrary is the truth as respects the fibrine. M. Magendie has given a list of substances with their action on the albumen of the serum, in his lectures published in this country, but unfortunately their value is diminished by his having omitted to mention the strength of his solutions and the quantity employed. One of the most striking chemical characters of albumen, is the property which it seems to possess, different from any other proximate animal principle, of acting sometimes as an acid and sometimes as a base, in a very marked manner. It is also asserted that its power of maintaining its combinations is so great, that barytes will not detect sulphuric acid when combined with it, nor will the most delicate tests separate iron from it.

Albumen is found in the alimentary canal during chylification; it also forms part of the lymph, and is conveyed into the blood with these fluids.

Prevost and Dumas found the proportion of albumen in the serum, pretty nearly the same in all the higher animals. Le Canu states that the proportion of albumen in the serum, varies from 57. 89 to 78. 27 in the 1000 parts; he found it nearly equal in the

two sexes, about equal between the ages of 20 and 60, and there was no striking differences in its quantity in the different temperaments. M. Denis found it in greater proportion in the middle aged than in the young or old; and he has remarked that when it predominates in old persons, the colouring matter of the blood is in small quantity. Mr. Thackrah entertained the opinion that it is the pabulum whence the fibrine is derived.

He found that utero-gestation increases the proportion of albumen in the blood. Albumen makes its appearance in fluids during disease, which do not contain it in health, and the quantity contained by the blood is frequently modified; its properties, therefore, require to be well understood by practitioners.

The liquid albumen of the blood is easily obtained separate in a solid form. A sufficient quantity of cold alcohol may be mixed with the serum, in order to decompose it completely, and the precipitate must be treated with fresh boiling alcohol or ether. By washing in warm water, and then drying in a stove, solid albumen is obtained, and its quantity may be determined.

Albumen which has been coagulated, differs greatly in its properties from liquid albumen. It now resembles fibrine very closely. Like the last mentioned substance it is insoluble in water; it putrifies less readily than liquid albumen. Alkalies dissolve it with disengagement of ammonia, and it is precipitated again by acids. Alcohol, ether, and acids act upon each in the same manner. The principal chemical differences between coagulated albumen and fibrine, besides the capability of existing in two states, which the former possesses, are the different actions of ammonia and acetic acid, which dissolve fibrine more readily than coagulated albumen; and the peroxide of hydrogen has no action on the latter, while it has a decided action on the former, oxygen being instantly extricated, and water formed.

Fibrin of the Blood.—I have, in the next place, to call your attention to that constituent of the dead blood called fibrine, the first correct account of which was given by Fourcroy, Vauquelin, and Berthollet, and the first accurate analysis by Berzelius. When we study the fibrine in relation to the living system, we shall find that its importance is not secondary even to the albumen. I have already stated that many chemists believe these two substances to be modifications of one and the same principle. Fibrin is a white, compact, insipid, inodorous solid; elastic when moist; hard, brittle, and semi-transparent when dry, in which latter state it softens in water, but is not dissolved. It is insoluble in water at common temperatures, but soluble in very minute quantity by boiling. According to Davy, its specific gravity is 1046 to 1060. At high temperatures it melts, puffs up, and burns, leaving a shining cinder, which also burns to a grey, white, compact, semifused ash, ¾ per cent. of the dried fibrine. This ash is neither acid nor alkaline, and is composed chiefly of phosphate of lime, phosphate of magnesia, and a slight trace of iron. It is said, also, to have afforded traces of silica; but these substances cannot be extracted from fibrine dissolved in acids before combustion. By long continued boiling in water, fibrine shrivels up, becomes hard, and falls to pieces on the slightest pressure; the fluid being turbid, and containing a newly-formed substance, but no gelatine. According to Mr. Gulliver, "coagulated" fibrin, subjected to a blood heat, commences to soften in about 48 hours, assuming the colour and consistency of pus, but easily distinguished from it by microscopical and chemical examination. Fibrine is composed of azote, carbon, oxygen, and hydrogen, the first of which is in greater proportion than in any other animal substance.

The following table exhibits the more remarkable remaining chemical qualities of fibrine.

TABLE IV.

Alcohol.—Sp. gr. 781, converts into fatty adipocerous matter; soluble in alcohol and ether, but precipitated by water.

Nitric Acid.—Sp. gy. 1.25, with heat forms a yellow solution, and disengages nitrogen.

Hydrochloric Acid.—If dilute hardens without dissolving; dissolved by cold concentrated; and if kept 24 hours at a temperature from 64° to 68° Fah., acquires a blue colour, which is not the case with gelatin and the substance of tendons (Caventou and Bourdois).

Concentrated Sulphuric Acid.—Its own weight dissolves without change of colour; digested in strong S.A., is carbonised and decomposed, forming a reddish brown, nearly black solution. These mineral acids perform the part of bases. When concentrated, the mass swells up, forming a gelatinous acid substance; when dilate, forms neutral compounds, at the same time contracting. Acid compounds with fibrine, are insoluble in water, the neutral compounds soluble.

Acetic Acid.—Completely soluble; when concentrated the mass swells, becomes a bulky tremulous jelly, then dissolves; forms both acid and neutral soluble compounds.

Potassa.—Dissolved; thrown down, partially changed when the solution is neutralised. Caustic P. forms into a gelatinous mass, without being converted, like horn, into a soapy substance.

Soda.—Caustic; the same action as potassa.

Ammonia.— Soluble; with the alkalies, fibrin acts the part of an acid, or at least of an electro-negative substance.

Oxygen Gas.—An atmosphere of produces little effect (Thackrah).

Galvanic Aura.—Increases its contraction (Thackrah).

Peroxide of Hydrogen.— Decomposes by mere contact; oxygen and water formed, fibrine remaining unaltered; heat developed if the quantity of fibrine is large. This has been pointed to as a distinguishing character between coagulated albumen and fibrine.

Ferro-cyanuret Potassium.—Throws down from its solution in acetic acid, a characteristic precipitate. This is not the case with cellular, tendinous, and vascular tissue.

M. Denis has lately endeavoured to prove that *liquid* albumen is nothing more than fibrine held in solution, not by the soda alone, which the blood contains, but by the concurrence of the soda, and the neutral salts in the blood, liquid albumen being, in fact, nothing more than a salino-alkaline solution of fibrine. He states that fibrine may be dissolved in a thousand parts of water, holding in solution a hundredth part of nitrate of potassa and a thousandth part of soda, this solution taking up $\frac{1}{100}$ths of fibrine, and forming an artificial serum, which, according to his statement, has all the chemical properties of the natural serum. From these experiments, M. Denis concluded that liquid as well as solid albumen and fibrine are the same substances; but Magendie doubting the fact, that it is possible to transform fibrine into albumen, had the experiments repeated before him, when they failed. The writer of the criticism on M. Denis's book, in the *British and Foreign Medical Review*, also repeated them, without obtaining similar results; but I cannot concur with him in condemning *in toto* the important work of M. Denis on account of this error, if it be one. How often does it happen that physiologists are led to erroneous conclusions by their experiments, and afterwards obliged to retract their opinions? M. Denis is quoted by the best continental authorities, and more particularly by M. Le Canu, who is so deservedly praised by the writer of the review in question. For these reasons I feel myself justified in not withholding, but, on the contrary, putting forward the results of this gentleman's laborious researches. M. Magendie has also made a great number of experiments on the action of neutral salts upon the constituents of the blood, but they are rather of a physiological character, and will be referred to on a future occasion. Upon the whole, the chemistry of albumen and fibrine requires a searching experimental investigation by some competent individual.

The statements made by different physiologists respecting the quantity of fibrine contained in the blood are very various. We learn by them that its proportion differs greatly in different specimens. In one of the analyses placed before you, this principle constitutes 2.9 parts, and in the other 2.2 parts in a 1,000. The following will confirm this view of the case. The fibrine contained in 1000 parts of blood is according to

Berzelius	.75
Whiting	1. to 2.
Thackrah	2.8
Fourcroy	1.5 to 4.3
Lassaigne	1.2
Le Canu	1.3 to 7.2
Denis	2. to 4.
Letellier	1.6 to 4.3

Müller obtained 4.9 parts of dried fibrine from bullock's blood. Now, suppose we take Mr. Thackrah's average of the proportion of fibrine in the blood, and 30lbs. as the quantity of blood in the body, the whole quantity of fibrine in the blood of an individual is nearly *one ounce*.

Various processes have been recommended for the purpose of obtaining the fibrine separate, and determining its quantity. The following is extracted from a work by Dr. Christison:—"Put a given quantity of blood into a bottle containing a few fragments of lead. Let the bottle be filled to the lip, and stopped with a grooved stopper, then agitate for ten minutes. The fibrine collects around the lead; it must be separated, well squeezed, slightly washed, squeezed again, and weighed moist. It must next be well soaked in repeated portions of water to remove the serum, and, lastly, dried in a vapour bath until it ceases to lose weight. The dry mass, when weighed, gives the quantity of fibrine contained in the given quantity of blood." The specimen of fibrine before us was procured by simply washing a clot of blood under a stream of water; the soluble, colouring, and other matters, were drained away, and the insoluble fibrine left behind in the bag which contained the clot. For the purpose of ascertaining the quantity of fibrine in blood, Dr. Rees recommends us "to weigh the whole quantity to be submitted to examination; to cut the clot into pieces as small as possible, without losing any appreciable quantity of matter, and to place the mass in a filter, with a stream of distilled or rain water so adapted, that a constant supply may be afforded to wash away the red particles and serum contained in the interstices of the clot."

The proportion of fibrine in the blood varies greatly in different classes of animals. It is smaller in the less perfect than in the higher classes. The blood of the *annelidæ* has very little fibrine. In insects the ratio of fibrine is increased. In the *crustaceæ* and

molluscæ the still colourless blood is much more fibrinous, but contains a less proportion than is furnished by red-blooded animals. But, according to Berthold, the quantity of fibrine in cold-blooded animals is as great as in that of warm-blooded animals, while some other principles, as the colouring matter, is diminished in quantity. Fibrine is generally stated to be scanty in blood procured from young subjects, but this observation is not sufficiently established. In advanced life again it is believed to decrease in quantity. There is less fibrine in the blood of females than in that of males. According to Mr. Thackrah's experiments on dogs made to fast for 18 hours, the proportion of fibrine in the blood was slightly *increased*. According to the same author, the fibrine is somewhat, but not greatly, reduced in proportion by a low vegetable diet, but this effect was not permanent. It would be imagined, *à priori*, that the blood of the robust labourer must furnish more fibrine than that of the debilitated citizen, but Mr. Thackrah found it otherwise. It was in greatest abundance in literary men, and smallest in muscular recruits; but his experiments were very few in number, and totally inadequate to enable us to establish general principles on this subject; and I must again remind you, that we shall find any character of the blood, taken singly, of comparatively little practical value. Mr. Thackrah found that utero-gestation had a remarkable effect in increasing the quantity of the fibrine of the blood. In one lady, blood abstracted the day before delivery furnished 5.3 pints of fibrine in 1000; but I am deviating from the proper subject of this lecture. Suffice it now to say, the proportion of fibrine in human blood is liable to a very extensive range of variation; and I have the authority of Dr. Babington to say, that it undergoes alterations in quality also in diseases. Fibrine is the basis of the muscles, and one of the most abundant of the animal proximate principles.

White substance of the Corpuscles.—In each of the two analyses of the blood given above, you find albumen twice mentioned, once as constituting a part of the serum, and again as forming a part of the clot, or rather of the corpuscles. When we view the blood as it exists in its vessels, we shall find a particular appearance in these corpuscles, which is believed to be owing to *nuclei*, and after the natural separation, which takes place on the extravasation of blood, a particular substance is found in the clot, which is considered to be these nuclei nearly or entirely isolated from the other parts of which it is constituted. The chemical analysis of this part of the blood has been little attended to on account of the difficulty of obtaining it in sufficient quantity and separate from the other principles, particularly from the solid constituents of the serum. In order to obtain this substance, M. Donné directs the clot of blood to be pressed through linen, by which means a thick liquid, consisting of serum, full of red corpuscles, shreds of colouring matter, dissolved colouring matter, and fatty molecules, is obtained. By diluting this liquid with water, we occasion the solution of all the colouring matter, and then by filtering we procure the white corpuscles, or the "white matter of the globules." I must confess that I have repeated this process without a satisfactory result, and I do not know any process by which these nuclei can be procured separately in a state of purity. Le Canu directs us for this purpose to receive one part of blood as it flows from a vein into eight parts of a saturated solution of sulphate of soda. No coagulation takes place, but after a few hours it separates into two parts, a reddish liquid above and a thick blood-red fluid below. By filtration the liquid which consists of the serum and sulphate of soda is separated, and the deposit quite drained, has the consistence of honey being of a blood colour. This is to be treated with boiling alcohol acidulated with sulphuric acid. The colouring matter is dissolved, and a white substance left behind, with the characters of a combination of albumen and sulphuric acid. When the subject of *hematosine* is before us, we shall find a method of determining the proportion of the material of the nuclei as well as of the hematosine, which together constitute the red corpuscle. This white substance is insoluble in water; it remains sometime in acetic acid without suffering change, is soluble in ammonia, soda, and potassa, and thus resembles albumen and fibrine, with some slight differences. It is most frequently regarded as albumen existing in the blood in a peculiar solid globular state.

You observe that it occurs in a very considerable quantity, in fact we shall find that it constitutes the greater part of the bulk of the blood corpuscle. According to the 25 analyses of healthy blood, contained in M. Denis's work, the proportion of this part of the albuminous or fibrinous principle of the blood varies a great deal at different ages and in different constitutions. As much as from 60.704 to 146.794 in 1,000 parts. These variations correspond with the specific gravity of the blood and the proportion of water in the serum. The matter, which constitutes the bulk of the red corpuscles, being thus found in much the smallest quantity in what may be called *watery blood*, and in much the largest proportion in *rich blood*. Albumen, in its different forms, constitutes from 150 to upwards of 200 out of 1,000 parts, and the albuminous, fibrinous, and aqueous principles constitute at least $\frac{1}{5}$ths of human blood.

I have, in this lecture, called your attention to the chemical history of a part of the proximate principles which are found in the dead blood, as procured from the veins at the

bend of the arm; in the next I propose to proceed with the saline, colouring, odorous, and fatty principles; but I must state, that I give these strictly chemical details generally upon authority, and that, although I use my best endeavours to determine the true state of our knowledge upon the subject, I cannot say I am satisfied that each particular is established upon a firm basis; moreover, the science of chemistry has undergone great changes in our own time, and it is impossible to foresee what revolutions await its development in the womb of futurity. I wish you to bear the fact in mind, that each of these constituent principles of human blood varies in proportion, and that these quantitive differences correspond with different physiological states of the system, referable to age, sex, temperament, and the like; and I may in conclusion state, that a greater range of variation, and more complicated modifications of the blood, will be found to exist, as *exponents*, if I may so express myself, of general and special pathological conditions.

ERRATA.—In last lecture, p. 146, col 2, line 36, for 'human,' read known; p. 152, col. 1, line 62, for 'evaporation,' read composition; col. 2, line 9, for 'Lewer,' read Lower; p. 153, col. 1, line 62, for 'dialute,' read diabetes; col. 2, line 39, for 'principles,' read principle.

CLINICAL REMARKS,

By SIR BENJAMIN C. BRODIE,

AT

ST. GEORGE'S HOSPITAL.

ULCERS.

I SHALL make but a few general observations upon ulcers, as I shall have to speak to you at large upon some of the particular species of these morbid degenerations of structure. It is somewhat difficult to give a correct definition of what an ulcer really is. We say that a part is ulcerated, when some portion of the solid structure is absorbed, and the exposed surface presents a suppurating aspect. Internal ulcers, as they are sometimes termed, come more particularly under the care of the physician; but, as I have just said, ulcers on the external surface of the body, not depending on any poison as a cause of their presence, are very difficult to describe in words, on account of the great variety that are presented to the observation of the surgeon. I will first, then, speak of

Healthy Ulcers.—These are such as may be caused by the application of caustic, or from an incision made with a knife. These ulcers secrete a thick white pus, of the colour of cream, the granulations are small and pointed, and of a florid red colour. Generally speaking, an healthy ulcer will heal of its own accord; but it is generally necessary to apply some simple dressing to it, and place a roller over this, as it will prevent its scabbing. When the ulcer is of a large size, you will heal it best by the application of stimulants. These substances vary, but they have all one common purpose. They are generally used in the form of diluted nitric acid, or a solution of sulphate of copper, or sulphate of alum; but, perhaps, none are so efficacious as a solution of nitrate of silver, in the proportion of two grains to one ounce of water. There is very great discretion necessary in the application of these stimulants. The ulcer may be over stimulated, or the reverse may be the case. When the ulcer is of a large size, its cicatrisation may be promoted by gently purging the patient, and applying straps of adhesive plaister to the ulcer. An ulcer in the neck, caused by a burn, will heal; but if great care is not taken, the cicatrix will contract, and the chin will be bound down to the sternum. This, of course, causes great inconvenience to the patient, and you may perhaps imagine that the relief is very easy, and say, "cut across the cicatrix,"—aye, aye, you may cut across the cicatrix, if you like, but it will form again, and become still more contracted. It was in such cases as these that the late Mr. Earle proposed to dissect out the cicatrix and bring the parts together in such a manner that the contraction shall not be productive of any inconvenience. I have performed this operation of excising the cicatrix in several instances; but I cannot say that I have ever been perfectly satisfied with the result. There are some appearances which ensue after burns, and which very much resemble ulcers, but they are not ulcers in reality; these are best treated by sprinkling a little powdered prepared calamine on them. There are some ulcers which do not heal very readily; this generally results from weakness of parts. In such cases the granulations are large, and grow very rapidly; they are pale in appearance, and possess but little vascularity, whilst their surface is soft, spongy, and very irregular. Now, in such a case as this, you must restore the strength of your patient's constitution, by giving him bark and such other tonics as he requires. You will do much in this way, but you will do more by attending to the local treatment of the ulcer. If you find the granulations grow above the surface of the skin, you must touch them with the solution of the nitrate of silver, or with the oxidized ointment of nitrate of mercury, and strap it with adhesive plaister. If you find an ulcer become very irritable, you may make pressure on it with adhesive plaister and a bandage; this is an old but a very excellent way of treating these cases. The adhesive plaister should be spread on cloth, and cut into strips an inch in breadth. Apply one strip some distance below the wound, the next half way over the first, the next half

way over the second, and so on, till you have arrived over the ulcer. Take care that the pressure is equal; much pressure is not needed in these cases. When there is much discharge, the adhesive plaister should be changed daily; when there is not much, every other day will be quite sufficient.

Indolent Ulcers.—You will meet with these most frequently in the leg. They generally occur a little below the level surface of the skin, have no granulating surface, and the discharge from them is not of pus, but of flakes of coagulable lymph. The edges of the surrounding skin are thick, prominent, and smooth, on their upper surface. If such an ulcer as this comes under your care, put your patient to bed, apply fomentations and poultices, and, when the inflammation has subsided, apply some adhesive plaister to the ulcer, with a roller over it. Or you may, if you please, use some stimulating ointment to the part.

Sloughing Ulcers.—These are ulcers that spread partly by suppuration and partly by absorption. They are attended with considerable pain and surrounding inflammation, and the discharge from the ulcerated surface is very copious and offensive. These ulcers cause great constitutional disturbance. The pulse becomes quick, the skin is hot and dry, and the tongue furred. In treating such an ulcer, you must first ascertain what the constitutional cause may be, whether it may arise from the internal irritation of mercury or any other poison in the system. The patient should be kept in a perfect state of quietude. When there is much pain, and a line of limitation between the sloughing and healthy surface shows itself, you will find that the internal use of opium in the dose of from four to five minims of the tincture will prove of great service. There are some of these cases which are benefitted by bark. When the ulcer is not very painful, and the pulse is feeble, you will find the tonic plan of treatment to be the best. When there is a great deal of sloughing, and the skin is dry and hot, you will aggravate the disease by giving stimulants. You must in such a case take blood from the arm, which you will find has the buffy coat; with this you must combine purgatives and diaphoretics. The local treatment may consist of cold applications or the white way ointment, or the chlorate of soda; but I would particularly recommend to you the compound tincture of benzoin. To apply this, dip a piece of lint in the tincture and place it over the ulcer, and prevent it from evaporating, by putting dry lint over it. When the sloughing has stopped, merely wash the parts with the tincture, and apply adhesive strapping over it. There is no general rule of treatment, for according to the external appearance of the ulcer and to the constitutional disturbance of the system so must be the remedies. Another mode of cure is to stop the sloughing of the ulcer, by applying the concentrated nitric acid to it; but I prefer the mode of cure by the compound tincture of benzoin. In France they use the actual cautery to these ulcers.

Irritable Ulcers.—These generally begin in the form of an eruption, terminating in an ulcer, which is extremely painful, and sometimes bleeds, and has jagged edges. The chief characteristics of this species are, extreme pain and a great indisposition to heal, and their depending upon a cachectic diathesis of system. Different cases require different treatment. The most general mode of treating these ulcers is in exhibiting small doses of mercury with the decoction of sarsaparilla. Sometimes the digestive organs are affected, and then you must give bitters. You must bear in mind that these ulcers always depend upon a cachectic state of constitution. The local application may consist of a carrot poultice, with one drachm of the extract of hemlock beat up with it. In some cases Peruvian bark may be applied in powder to the ulcer. Stimulating ointments are sometimes beneficial, whilst at other times they are injurious. The difference between sloughing ulcers and irritable ulcers is this, that the former affect the constitution, and cause the disturbance, whilst the latter are caused by the cachectic state of the constitution.

Mortification.—Inflammation may terminate in mortification, but mortification may arise from a number of other causes, as well as inflammation. Some particular inflammations are more likely to terminate in mortification than others, as when they are produced by the bites of venomous reptiles or from wounds. A local injury may bring on inflammation, and this may bring on mortification; but an injury may be so great that the part which receives the injury looses its vitality at once, therefore local injury may bring on mortification in two ways; first, by producing inflammation, and then the inflammation terminating in mortification; and secondly, by destroying the vitality of the part at once. Some parts of the body are more liable to become mortified than others. These parts are the cellular membrane, because it has a lower vitality than some other parts; therefore it is more disposed to become mortified than the skin, because it has less vitality. The skin more readily mortifies than the muscles, for the same reason; this is often proved from the effect of blows on, or fractures of the leg and thigh. The integuments swell up, and after a day or two, you will feel an emphysematous crackling beneath the skin when you press upon it. Now, in such a case, if you cut down upon the cellular membrane beneath the skin, you will find it dead. Not only are some parts of the body more disposed to mortify than others, but there are

some constitutions which are more predisposed to take on mortification than others. Those who are addicted to drinking ardent spirits; those whose constitution has been shattered by repeated attacks of disease, or indulgences in vicious habits, are more prone to mortification after the receipt of a local injury, so much so, that in all such cases you will find that the effect resulting from the injury is beyond all proportion to its cause. If any fluid, as urine for instance, gets into the cavity of the peritoneum, it brings on inflammation; but if it gets into the cellular membrane, you will find that mortification will come on; you will find the patient's pulse will be full and frequent, and not hard, as you might expect in inflammation, and that the part is swollen. You put your hand over it, and you feel, as I have before said, an emphysematous crackling upon making slight pressure; the skin is hot, and if the inflammation be extensive, there is hiccough, the belly is blown up with air, the pulse soon gets feeble, delirium ensues, and the patient dies. Where there is internal mortification, the symptoms are the same. If the patient dies of mortification of an external part, it is generally the cellular membrane that is mortified. But will not the skin also get mortified? Most certainly it will, if you do not prevent it. And how do you prevent it? Why, by making free scarifications through the skin down to the cellular membrane, and setting free the tension under which it labours, and if you do this in good time, you will generally prevent the progress of the mortification altogether.

Whenever you suspect that the cellular membrane is mortified (and you will have the emphysematous crackling when that occurs), make free scarifications, and let out the putrid exhalations beneath, which are poisoning the system. Having made the scarifications, the other local treatment should consist of poultices and fomentations. You may apply as a wash a solution of the chloride of soda; if it does no other good, it will take off the offensive putrid odour of the parts.

With respect to the constitutional treatment, no general rule can be laid down. In some cases, where there is much inflammatory action, purgatives and diaphoretics must be given; but when the inflammation has subsided, you must leave off the antiphlogistic remedies, and give stimulants, to excite the system, but never to such an extent as to produce fever. For such a purpose you may administer either opium or ammonia. But suppose that a mortified part separates, we call that the process of sloughing. We know but very little of the physiology of this process, which may be described best to you as a peculiar form of ulceration. Whilst this process is going on, you must encourage it by the constant application of fomentations and poultices. Ulcers may perhaps form from the scarifications you have made, and these must be treated according to the rules I laid down to you when speaking of them. But you will, perhaps, ask—may you not amputate when mortification is going on? I think you may. Of course you would not amputate when mortification in the cellular membrane is complete; you are told to scarify, and what, I would ask, is amputation, but scarification in a more extended sense of the word? When mortification is the consequence of contusion, it is to be treated as contusion. You will feel the emphysematous crackling of mortification; scarify the parts therefore immediately, and you will save the skin.

Old persons are very subject to ossification of the arteries; the femoral, popliteal, and peroneal arteries sometimes ossify, and if the ossified arteries contract, the patient will be very likely to have inflammation of the toes, terminating in mortification. The symptoms by which you may know this are pains in the toes; the foot and leg will become œdematous; or perhaps, from a trifling accident, some inflammation is produced, and in both these cases mortification comes on; at another time, perhaps, the patient finds his feet get very cold; he immediately applies external warmth, and takes some internal stimulant, and the mortification is averted; but if, on the other hand, it be neglected, the foot becomes white and cold, the patient complains of great pain, and the toes begin to mortify at their extremities; in either way the progress of the mortification is different. It is sometimes rapid, when it obtains the title of "acute," the skin will become hot, the tongue loaded, the pulse rapid and frequent, the mortification will spread over the foot, delirium will ensue, and death will be the result; or it may, on the other hand, be slower in its progress, when you will have a feeble pulse and a cold clammy skin; the patient falls into a state of coma, and dies. The mortification that comes on in the toes, from ossification of the arteries in the leg and thigh above, may be very likely to destroy life, but will not always do so. When, in such a case, inflammation ends in mortification, if the pulse indicates fulness, it may become a question whether blood should be taken from the arm. The result of my experience in such cases is, that such a practice would prove unsuccessful to the safety of the patient. With respect to local remedies in such a case, you must keep the parts warm; if there be, however, much heat and inflammation about them, you must apply cold lotions, or warm fomentations and poultices, according to circumstances. Some surgeons recommend you to rub the leg above with stimulating liniments, but I do not think that they do any good. Keep your patient quiet in bed; if there be much pain, give him *opium*; I do not know that it is of much

service, except where there is severe pain, when you must give it in large doses, in the proportion of one grain every four hours. You may give stimulants internally, for although you cannot increase the diameter of the ossified arteries, you can increase the velocity of the circulating blood. For this same purpose you may give your patient a little wine, but not sufficient, of course, to produce fever. In cases of this kind, where persons have been accustomed to drink a great deal of wine, it may be necessary sometimes to give them as much as a bottle a-day. My own opinion as to the employment of stimulants in these cases, induces me to prefer ammonia to all others. You may, for this purpose, give your patient six grains of carbonate of ammonia every four hours. The parts affected with mortification become putrid, and in process of time they separate. This process of separation occurring in the foot, is very slow and tedious, because it has to slough through tendons, ligaments, and bones. It therefore becomes a question, whether you are to amputate in these cases of mortification, caused by ossified arteries, and when are you to do it? If things proceed favourably, the parts will separate in time of their own accord, and nature will make a very good stump, with a little assistance of the surgeon's saw in getting through the bone. But there is another question, with reference to this subject, and that is, should you amputate during the progress of mortification? I always oppose it. I think that you should never amputate under these circumstances; but it is done, however, in some cases by some surgeons. In old persons who die of mortification of the toes, the femoral artery is very commonly contracted in its diameter. Now, whether this is caused by inflammation of its coats or not, I do not know.

There is another disease of the arteries causing mortification, but I have only seen three cases of the kind. One was an obliteration of the artery, caused by inflammation of its coats; the symptoms were pain and tenderness in the course of the artery. In this case the sloughing process proceeded favourably, and the parts separated down to the bone, which I sawed through, and a good stump was formed. Now, why does not mortification ensue after applying a ligature to the femoral artery? If you tie an artery, the obliteration is only in the trunk of the artery, but not in the anastomosing branches; but in a case like the one I have just named, it is not only in the main trunk, but in the branches of that main trunk also. Mortification will also occur in the toes after typhus fever. In such a case, it is, of course, owing to a languid circulation, and from this cause parts at the extremities may also become mortified, after other severe diseases. Besides the causes which I have already mentioned, there are various others that may produce mortification, such as the actual cautery, and the various caustics, which act by destroying the vitality of the part to which they are applied. The actual cautery acts mechanically, and the caustics chemically; but there is one caustic, however, which operates only on the vitality of the part to which it is applied, and not chemically: this is arsenic. The other caustics act on the dead body, but arsenic does not. Mortification, when caused by the use or abuse of these caustics, requires the same local treatment which I have before described; you must apply poultices and fomentations, and wait for the process of suppuration. Indeed, in such cases as these, a surgeon should do but little. He should look to the constitution, and judge if it is able to go through what is required; if so, you should let nature effect the cure, but if the constitution be too weak to bear the process of the separation of the parts, then the surgeon must act according to the circumstances which present themselves. Of the surgical nomenclature used for this affection, I should have spoken to you first. You will meet in authors with the words gangrene and sphacelus. The first of these signifies that period when the parts are not quite dead; the second means that period when the mortification is complete. From gangrene the patient may recover, from sphacelus never.

RODERICK'S THEORY OF MEDICAL ETHICS.

To the Editor of THE LANCET.

SIR:—The manner in which Sir James Clark's statement of the late unfortunate case at the palace has been received by the press, is creditable to the national character. It is not agreeable to English feeling to have its sympathy with misfortune assuaged by the excitement of vindictiveness against the innocent, and Sir James Clark's statement has, accordingly, with one notable exception, to be referred to presently, been deemed an ample vindication of his own conduct in the trying scene to which he was subjected. If he erred, it was not certainly from want of feeling for his patient; but from what the world may term an imprudent disregard for his own interests in watching over those of another, or, as you justly express it, from a species of knight-errantry—an error, certainly, but an error which I suspect, from what I have heard of Sir J. Clark's disposition, he would be very apt to commit again under similar circumstances. Had he, the moment suspicion entered his mind, called in an accoucheur in consultation (and the refusal to submit to the required examination would have been a sufficient reason to assign), he would have obtained perfect se-

curity for himself, but he would thereby, supposing the suspicion was well-grounded, have much increased the risk of exposure to his patient. It may be demanded, if the accoucheur consulted might not have been confided in as an inviolable keeper of the secret? It is unquestionable that there is as much honour in our profession, or as high a principle of honour prevalent in it, as in any other; that there are lamentable exceptions, however, will appear from the sequel of this letter, and it is, therefore, imprudent, unless other circumstances overbalance the risk, to rely on such a protection. The first illustration of the resemblance of this general rule to all others, which I shall notice, is afforded by the writer of the leading article in the *London Medical Gazette* of last Saturday. This worthy coolly places himself in the chair of ethics, and inculcates doctrines, which, however acceptable they may be to the coterie of whom he is the organ, will be received with indignation and contempt by the body of the profession. He pronounces it injudicious or ill-advised in Sir James Clark to publish his statement (from no regard for Sir James, but as another instance of his deficiency in what he terms "tact"), because, says this professor of ethics, had he continued silent, the opinion which had been formed, that he was restrained from publishing what would tell in his own favour, in deference to a certain person or personage, whose character would be affected, would have remained to operate in his favour. It is needless to say who the person or personage is, who was to be left under injurious suspicions by the physician whom she had so befriended and distinguished, in order that he himself might escape. And this is medical ethics, according to this expounder of the science. And this atrocious opinion is expressed by the creature of one who, by reason, not of professional or scientific acquirement or talent, but by connection solely, holds a conspicuous place in relation to the person or personage alluded to. It behoves this favoured individual to be guarded what countenance he shows hereafter to his obsequious toad-eater; let him take warning from the fate of his aforesaid connection. But whatever reception an ethical professor may meet with in that quarter, every generous mind in the profession will loath the counsel to protect one's own interests by permitting a suspicion to lie on the character of a benefactor, and one who has other and higher claims to justice than those of gratitude. Another maxim in medical ethics, which this respectable instructor of our youth inculcates, is—that whether there be grounds for suspicion or not, in cases like that in question, the physician must not content himself with simple negation or declining to give an opinion, but must stoutly deny there is any foundation for the charge. In this case, it would appear, it is in accordance with medical ethics, to lie openly, in order to protect his patient; as in the former case, by his silence, he ought to lie tacitly, in order to protect himself! Does not our ethical Solon reflect, that if such were the understood medical etiquette, no opinion would ever be asked from a medical man, as being a professed liar? Such protection might answer for a time, while the public entertain their present opinion of medical men's honour and truth; but the moment it becomes the established medical etiquette to lie at all hazards, it would utterly fail. Such infamous counsels to ingratitude and falsehood from a medical journalist, are not the best calculated to advance the profession.

It was my intention to remark upon the several objections which this admirable judge of ethics and honour has made to Sir J. Clark's conduct in the case; but the sophistry is too shallow, and the falsity of statements too obvious to require animadversion. Notwithstanding the writer's prate about want of tact in others, the malignity of the attack is so obvious, so thinly veiled by an affectation of candour, that the reader is immediately sensible he is addressed by the tool of parties, actuated by envy and hatred. Not content with a distortion of the facts of the case, the writer draws on his imagination, and Sir J. Clark is accused by insinuation of unhandsome insinuations against Sir C. Clarke. Now, how stands the question? A professional brother is called into consultation, and, as in all such cases, is expected to share the responsibility. A false and most injurious statement is published against Sir James Clark, and remains for weeks uncontradicted by Sir Charles Clarke, although the main proceedings with which Sir James is charged, and upon the commission of which it was asserted he insisted against the opinion of Sir Charles, actually originated with the latter. This conduct requires no comment, but is, no doubt, in perfect accordance with the new system of medical etiquette preached up in the *Medical Gazette*. Sir James Clark makes no accusation against Sir Charles Clarke, either directly or indirectly: on the contrary, he speaks of him with a degree of respect, which is singular, considering all circumstances.

Sir J. Clark's skill has not been questioned, even by the most virulent of his opponents. The peculiar difficulties of the case were established by the post mortem examination, and are, it is understood, admitted by Sir Charles Clarke.

With respect to the "tact" of Sir James Clark, the general impression of the profession is, that if he erred, it was from the regard to his patient's feelings superseding that which was due to his own interests—an amiable feeling, which, when the mists raised by political feeling and misrepresentation have passed away, will be seen in its

true dimensions, and be scarcely reckoned a blemish in the character of a physician. His medical calumniators may rest assured that there is a generosity in the English mind that invariably compensates the injury which a public character may for a while sustain from the frenzy of party politics or the invidious detraction of competitors—that the medical world rejoices in observing that there are other arts which lead to fortune besides the "tact" and trickery of courts—and that their affection for their youthful sovereign makes them view with approbation the appointment, as her principal physician, of a gentleman distinguished by his sound professional knowledge and his valuable contributions to medical science and literature.—I have the honour to be, sir, your obedient servant,

MEDICUS.

London, October 21, 1839.

PROPOSED RESISTANCE TO THE APOTHECARIES' COMPANY.

To the Editor of THE LANCET.

SIR:—In the last number of your valuable journal, I find a letter, from one of your correspondents, headed "Nullity of the Act of 1815," during the perusal of which I was much struck with the apparent practicability of his suggestion for organising an opposition to the Apothecaries' Hall, by medical students. If the greater part of them, now in town preparing for their examination, or about to complete their studies, would unite with those at present attending the different courses of lectures that are necessary, so as to come to the determination not to pass the examination required by the Hall, I have no doubt of a most effectual resistance being maintained, until the projects of the British Medical Association are carried into force, or the Company of Apothecaries is driven to obtain fresh laws for the protection of the interests of the profession. I, for one, am ready, and will be most happy at any time, to join an Association of fellow students, having for its object such a resistance, or the promotion of the views of the Reform Committee of the British Medical Association.

Your correspondent appears to have articled his son to one of the profession, under the idea that, after the completion of his apprenticeship, and attendance at the lectures, he would be qualified to practice, and that, too, without molestation from druggists or quacks, on passing his examination; but greatly to his surprise, however, he finds that such is not the case, and that, instead of its being as he expected, it is quite the reverse. The fact, that the Apothecaries' Act conferred no benefit on the profession, by offering them protection from such persons, has long been known, much to their sorrow and annoyance, and often alluded to in the pages of your periodical.

Every person, practising extensively, must have experienced this nuisance to a greater or less extent; and many have found that, after expending the greater part, and, in some instances, the whole of their limited fortune, for the acquirement and completion of their course of studies, they have scarcely been able to make a living, much less to maintain themselves in a style becoming one of their station in life, whilst scores of these senseless impostors continue to fatten by their impudence and ignorance, and laugh at the blind credulity of an unsuspecting public, and the fruitless efforts of the profession to put them down by an appeal to a law that they are well aware is little better than a perfect chimera; in fact, a law which, instead of giving us the least tangible means of putting a stop to quackery, as was its ostensible object when formed, is rather framed to favour it, either from having been made by a number of gross impostors, or persons whose skulls were as empty of brains as a vacuous space is of air.

In another part of your journal there also appears another communication relative to the same subject, in which your correspondent states, that, although the Company are aware that one of their worthless certificates has been forged, this shameful proceeding is not likely to meet with the punishment it justly merits. And why? Either because *they* themselves are now aware of the utter inefficiency of their charter, and feel somewhat chop-fallen at their recent disastrous defeat at Lancaster, or they are not very prone to prosecution unless compelled by the loud clamouring of some individual. We find that, after they are made cognizant of the fact, they return an answer to their informant to the effect that, on examination, they cannot make out a case against the offending party; but, with a degree of *liberality*, characteristic of such an illiberal body, they are willing to give him all the evidence they possess on the subject, provided that *he*, a single individual, will bring forward an action, which *they*, a corporate body, instituted for the purpose, are afraid to take up, as being hopeless. Fine consolation, certainly, for a person who is compelled, by an arbitrary law, to undergo the ordeal of their examination, and pay for their certificate—a certificate which he presumes is to qualify him to practice, whilst they afford him protection from quacks. But, instead of offering the protection they stipulated to afford, he is informed, when he solicits it, that they can give him no aid, but that if he has a mind he will be allowed to protect himself, by resorting to the law, at an expense which he probably is not able to bear. But supposing him to be so, and his case to terminate successfully, what advantage is likely

to accrue to him *individually*, as an equivalent for the expenditure in the prosecution? None, certainly. Such, then, is the vicious state of things at which we have arrived. Surely this must be the *acmé*. In an age like the present, characterised as it is by the spirit of reform, and a tendency to root out all abuses, such an unnatural condition cannot be allowed to continue much longer. Sooner or later it must cease to exist; and the sooner that it is overthrown, and supplanted by one more rational, and adapted to our present wants, the better; and this I am in the hope of seeing accomplished shortly, by the strenuous and laudible efforts which the British Medical Association, in conjunction with other medical institutions, is now making. But to conclude, Sir. My object, in troubling you with these observations, is to request you to suggest, or draw up, some kind of plan, by which a Students' Association might be formed and conducted for resisting the required examination of the Apothecaries' Company, and which I hope you will communicate to the numerous body of students, anxious for the change, through the medium of your columns, as soon as you can make it convenient to do so. If they allow persons who have had no scientific education, or passed any examination, to practice unmolested, a numerous body of students, who have passed *one* examination, and had a thorough medical education, have not much to apprehend from their worships in the neighbourhood of Bridge-street.—I am, Sir, yours,

Nov. 4. A Student.

BOLD EMPIRICISM in the WESTERN COUNTIES.

To the Editor of The Lancet.

Sir:—Dropped from the clouds, or some other equally mysterious locality, God knows where, a grandiloquent personage has lately made his appearance in Wiltshire, and there pitched his tent in divers places. Walking through Devizes some few weeks since, I heard an urchin of a boy vociferate to his companion, "There, look, Jack, there gooes the worm doctor!" Startled at the exclamation, supposing it to be a home thrust, I was about to chastise him for his insolence, but the lad instantly explained by saying, "I didn't mean you, Sir; I meant thik other doctor, yon." My curiosity being excited, I requested the boy to point out "thik other doctor," and he directed his finger towards a man who was walking with rapid strides, and with an important air and manner, a few paces in advance of me. I kept close at his heels until he turned into the doorway of a respectable-looking house, where he stood with his arms folded, mum and motionless, like a pagod in a niche, to receive with all due reverence the almost idolatrous recognitions of his passing devotees. Over the door was printed in conspicuous letters, Doctor Reynolds Fowler. The doctor was a stout, strapping, well-fed looking gentleman, aged about thirty-five, with a huge pair of whiskers, that looked for all the world like a couple of furze-bushes minus their corollas. Imagining, probably, from my countenance I was dyspeptic, his sapience, as I passed, regarded me with a most searching stare; looking at me as if he would have me believe that I had got my stomach and bowels full of worms, and seeming to hint that it would be convenient to him to derive from my *primæ viæ* a little profitable exercise for his anthelmentic pretensions. In this instance Doctor Doctissimus was certainly unfortunate in his diagnosis. I never was troubled with worms in my life, excepting in my garden, and there I could afford him an extensive field of practice.

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service, except where there is severe pain, when you must give it in large doses, in the proportion of one grain every four hours. You may give stimulants internally, for although you cannot increase the diameter of the ossified arteries, you can increase the velocity of the circulating blood. For this same purpose you may give your patient a little wine, but not sufficient, of course, to produce fever. In cases of this kind, where persons have been accustomed to drink a great deal of wine, it may be necessary sometimes to give them as much as a bottle a-day. My own opinion as to the employment of stimulants in these cases, induces me to prefer ammonia to all others. You may, for this purpose, give your patient six grains of carbonate of ammonia every four hours. The parts affected with mortification become putrid, and in process of time they separate. This process of separation occurring in the foot, is very slow and tedious, because it has to slough through tendons, ligaments, and bones. It therefore becomes a question, whether you are to amputate in these cases of mortification, caused by ossified arteries, and when are you to do it? If things proceed favourably, the parts will separate in time of their own accord, and nature will make a very good stump, with a little assistance of the surgeon's saw in getting through the bone. But there is another question, with reference to this subject, and that is, should you amputate during the progress of mortification? I always oppose it. I think that you should never amputate under these circumstances; but it is done, however, in some cases by some surgeons. In old persons who die of mortification of the toes, the femoral artery is very commonly contracted in its diameter. Now, whether this is caused by inflammation of its coats or not, I do not know.

There is another disease of the arteries causing mortification, but I have only seen three cases of the kind. One was an obliteration of the artery, caused by inflammation of its coats; the symptoms were pain and tenderness in the course of the artery. In this case the sloughing process proceeded favourably, and the parts separated down to the bone, which I sawed through, and a good stump was formed. Now, why does not mortification ensue after applying a ligature to the femoral artery? If you tie an artery, the obliteration is only in the trunk of the artery, but not in the anastomosing branches; but in a case like the one I have just named, it is not only in the main trunk, but in the branches of that main trunk also. Mortification will also occur in the toes after typhus fever. In such a case, it is, of course, owing to a languid circulation, and from this cause parts at the extremities may also become mortified, after other severe diseases. Besides the causes which I have already mentioned, there are various others that may produce mortification, such as the actual cautery, and the various caustics, which act by destroying the vitality of the part to which they are applied. The actual cautery acts mechanically, and the caustics chemically; but there is one caustic, however, which operates only on the vitality of the part to which it is applied, and not chemically: this is arsenic. The other caustics act on the dead body, but arsenic does not. Mortification, when caused by the use or abuse of these caustics, requires the same local treatment which I have before described; you must apply poultices and fomentations, and wait for the process of suppuration. Indeed, in such cases as these, a surgeon should do but little. He should look to the constitution, and judge if it is able to go through what is required; if so, you should let nature effect the cure, but if the constitution be too weak to bear the process of the separation of the parts, then the surgeon must act according to the circumstances which present themselves. Of the surgical nomenclature used for this affection, I should have spoken to you first. You will meet in authors with the words gangrene and sphacelus. The first of these signifies that period when the parts are not quite dead; the second means that period when the mortification is complete. From gangrene the patient may recover, from sphacelus never.

RODERICK'S THEORY OF MEDICAL ETHICS.

To the Editor of THE LANCET.

SIR:—The manner in which Sir James Clark's statement of the late unfortunate case at the palace has been received by the press, is creditable to the national character. It is not agreeable to English feeling to have its sympathy with misfortune assuaged by the excitement of vindictiveness against the innocent, and Sir James Clark's statement has, accordingly, with one notable exception, to be referred to presently, been deemed an ample vindication of his own conduct in the trying scene to which he was subjected. If he erred, it was not certainly from want of feeling for his patient; but from what the world may term an imprudent disregard for his own interests in watching over those of another, or, as you justly express it, from a species of knight-errantry—an error, certainly, but an error which I suspect, from what I have heard of Sir J. Clark's disposition, he would be very apt to commit again under similar circumstances. Had he, the moment suspicion entered his mind, called in an accoucheur in consultation (and the refusal to submit to the required examination would have been a sufficient reason to assign), he would have obtained perfect se-

curity for himself, but he would thereby, supposing the suspicion was well-grounded, have much increased the risk of exposure to his patient. It may be demanded, if the accoucheur consulted might not have been confided in as an inviolable keeper of the secret? It is unquestionable that there is as much honour in our profession, or as high a principle of honour prevalent in it, as in any other; that there are lamentable exceptions, however, will appear from the sequel of this letter, and it is, therefore, imprudent, unless other circumstances overbalance the risk, to rely on such a protection. The first illustration of the resemblance of this general rule to all others, which I shall notice, is afforded by the writer of the leading article in the *London Medical Gazette* of last Saturday. This worthy coolly places himself in the chair of ethics, and inculcates doctrines, which, however acceptable they may be to the coterie of whom he is the organ, will be received with indignation and contempt by the body of the profession. He pronounces it injudicious or ill-advised in Sir James Clark to publish his statement (from no regard for Sir James, but as another instance of his deficiency in what he terms "tact"), because, says this professor of ethics, had he continued silent, the opinion which had been formed, that he was restrained from publishing what would tell in his own favour, in deference to a certain person or personage, whose character would be affected, would have remained to operate in his favour. It is needless to say who the person or personage is, who was to be left under injurious suspicions by the physician whom she had so befriended and distinguished, in order that he himself might escape. And this is medical ethics, according to this expounder of the science. And this atrocious opinion is expressed by the creature of one who, by reason, not of professional or scientific acquirement or talent, but by connection solely, holds a conspicuous place in relation to the person or personage alluded to. It behoves this favoured individual to be guarded what countenance he shows hereafter to his obsequious toad-eater; let him take warning from the fate of his aforesaid connection. But whatever reception an ethical professor may meet with in that quarter, every generous mind in the profession will loath the counsel to protect one's own interests by permitting a suspicion to lie on the character of a benefactor, and one who has other and higher claims to justice than those of gratitude. Another maxim in medical ethics, which this respectable instructor of our youth inculcates, is—that whether there be grounds for suspicion or not, in cases like that in question, the physician must not content himself with simple negation or declining to give an opinion, but must stoutly deny there is any foundation for the charge. In this case, it would appear, it is in accordance with medical ethics, to lie openly, in order to protect his patient; as in the former case, by his silence, he ought to lie tacitly, in order to protect himself! Does not our ethical Solon reflect, that if such were the understood medical etiquette, no opinion would ever be asked from a medical man, as being a professed liar? Such protection might answer for a time, while the public entertain their present opinion of medical men's honour and truth; but the moment it becomes the established medical etiquette to lie at all hazards, it would utterly fail. Such infamous counsels to ingratitude and falsehood from a medical journalist, are not the best calculated to advance the profession.

It was my intention to remark upon the several objections which this admirable judge of ethics and honour has made to Sir J. Clark's conduct in the case; but the sophistry is too shallow, and the falsity of statements too obvious to require animadversion. Notwithstanding the writer's prate about want of tact in others, the malignity of the attack is so obvious, so thinly veiled by an affectation of candour, that the reader is immediately sensible he is addressed by the tool of parties, actuated by envy and hatred. Not content with a distortion of the facts of the case, the writer draws on his imagination, and Sir J. Clark is accused by insinuation of unhandsome insinuations against Sir C. Clarke. Now, how stands the question? A professional brother is called into consultation, and, as in all such cases, is expected to share the responsibility. A false and most injurious statement is published against Sir James Clark, and remains for weeks uncontradicted by Sir Charles Clarke, although the main proceedings with which Sir James is charged, and upon the commission of which it was asserted he insisted against the opinion of Sir Charles, actually originated with the latter. This conduct requires no comment, but is, no doubt, in perfect accordance with the new system of medical etiquette preached up in the *Medical Gazette*. Sir James Clark makes no accusation against Sir Charles Clarke, either directly or indirectly: on the contrary, he speaks of him with a degree of respect, which is singular, considering all circumstances.

Sir J. Clark's skill has not been questioned, even by the most virulent of his opponents. The peculiar difficulties of the case were established by the post mortem examination, and are, it is understood, admitted by Sir Charles Clarke.

With respect to the "tact" of Sir James Clark, the general impression of the profession is, that if he erred, it was from the regard to his patient's feelings superseding that which was due to his own interests—an amiable feeling, which, when the mists raised by political feeling and misrepresentation have passed away, will be seen in its

true dimensions, and be scarcely reckoned a blemish in the character of a physician. His medical calumniators may rest assured that there is a generosity in the English mind that invariably compensates the injury which a public character may for a while sustain from the frenzy of party politics or the invidious detraction of competitors—that the medical world rejoices in observing that there are other arts which lead to fortune besides the "tact" and trickery of courts—and that their affection for their youthful sovereign makes them view with approbation the appointment, as her principal physician, of a gentleman distinguished by his sound professional knowledge and his valuable contributions to medical science and literature.—I have the honour to be, sir, your obedient servant,

MEDICUS.

London, October 21, 1839.

PROPOSED RESISTANCE TO THE APOTHECARIES' COMPANY.

To the Editor of THE LANCET.

SIR:—In the last number of your valuable journal, I find a letter, from one of your correspondents, headed "Nullity of the Act of 1815," during the perusal of which I was much struck with the apparent practicability of his suggestion for organising an opposition to the Apothecaries' Hall, by medical students. If the greater part of them, now in town preparing for their examination, or about to complete their studies, would unite with those at present attending the different courses of lectures that are necessary, so as to come to the determination not to pass the examination required by the Hall, I have no doubt of a most effectual resistance being maintained, until the projects of the British Medical Association are carried into force, or the Company of Apothecaries is driven to obtain fresh laws for the protection of the interests of the profession. I, for one, am ready, and will be most happy at any time, to join an Association of fellow students, having for its object such a resistance, or the promotion of the views of the Reform Committee of the British Medical Association.

Your correspondent appears to have articled his son to one of the profession, under the idea that, after the completion of his apprenticeship, and attendance at the lectures, he would be qualified to practice, and that, too, without molestation from druggists or quacks, on passing his examination; but greatly to his surprise, however, he finds that such is not the case, and that, instead of its being as he expected, it is quite the reverse. The fact, that the Apothecaries' Act conferred no benefit on the profession, by offering them protection from such persons, has long been known, much to their sorrow and annoyance, and often alluded to in the pages of your periodical.

Every person, practising extensively, must have experienced this nuisance to a greater or less extent; and many have found that, after expending the greater part, and, in some instances, the whole of their limited fortune, for the acquirement and completion of their course of studies, they have scarcely been able to make a living, much less to maintain themselves in a style becoming one of their station in life, whilst scores of these senseless impostors continue to fatten by their impudence and ignorance, and laugh at the blind credulity of an unsuspecting public, and the fruitless efforts of the profession to put them down by an appeal to a law that they are well aware is little better than a perfect chimera; in fact, a law which, instead of giving us the least tangible means of putting a stop to quackery, as was its ostensible object when formed, is rather framed to favour it, either from having been made by a number of gross impostors, or persons whose skulls were as empty of brains as a vacuous space is of air.

In another part of your journal there also appears another communication relative to the same subject, in which your correspondent states, that, although the Company are aware that one of their worthless certificates has been forged, this shameful proceeding is not likely to meet with the punishment it justly merits. And why? Either because *they* themselves are now aware of the utter inefficiency of their charter, and feel somewhat chop-fallen at their recent disastrous defeat at Lancaster, or they are not very prone to prosecution unless compelled by the loud clamouring of some individual. We find that, after they are made cognizant of the fact, they return an answer to their informant to the effect that, on examination, they cannot make out a case against the offending party; but, with a degree of *liberality*, characteristic of such an illiberal body, they are willing to give him all the evidence they possess on the subject, provided that *he*, a single individual, will bring forward an action, which *they*, a corporate body, instituted for the purpose, are afraid to take up, as being hopeless. Fine consolation, certainly, for a person who is compelled, by an arbitrary law, to undergo the ordeal of their examination, and pay for their certificate—a certificate which he presumes is to qualify him to practice, whilst they afford him protection from quacks. But, instead of offering the protection they stipulated to afford, he is informed, when he solicits it, that they can give him no aid, but that if he has a mind he will be allowed to protect himself, by resorting to the law, at an expense which he probably is not able to bear. But supposing him to be so, and his case to terminate successfully, what advantage is likely

to accrue to him *individually*, as an equivalent for the expenditure in the prosecution? None, certainly. Such, then, is the vicious state of things at which we have arrived. Surely this must be the *acmé*. In an age like the present, characterised as it is by the spirit of reform, and a tendency to root out all abuses, such an unnatural condition cannot be allowed to continue much longer. Sooner or later it must cease to exist; and the sooner that it is overthrown, and supplanted by one more rational, and adapted to our present wants, the better; and this I am in the hope of seeing accomplished shortly, by the strenuous and laudible efforts which the British Medical Association, in conjunction with other medical institutions, is now making. But to conclude, Sir. My object, in troubling you with these observations, is to request you to suggest, or draw up, some kind of plan, by which a Students' Association might be formed and conducted for resisting the required examination of the Apothecaries' Company, and which I hope you will communicate to the numerous body of students, anxious for the change, through the medium of your columns, as soon as you can make it convenient to do so. If they allow persons who have had no scientific education, or passed any examination, to practice unmolested, a numerous body of students, who have passed *one* examination, and had a thorough medical education, have not much to apprehend from their worships in the neighbourhood of Bridge-street.—I am, Sir, yours,

Nov. 4. A STUDENT.

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Whilst our friend sojourned at Devizes, Thursday, the market-day, was his grand field day. On that occasion, scores of his credulous followers disposed of their cash, if not their worms, in most copious streams. These market-days produced the doctor's grand gatherings; he then made quick work of it, and

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sesquipedalia verba (quite as long as any of his dead worms) are evidently strung together as a bait for the capacious gorge of the credulous: who, after bolting them, must naturally have a strong relish of the author's extraordinary learning. It is no compliment to the present age, nor to the county in which I live, to say that he has contrived by this species of clap-trap to worm himself into the confidence of hundreds, who seem to be as much infatuated with his pretensions as were the superstitious boors of Kent with the blasphemous fooleries of Mad Thom of Canterbury.

This bastard doctor, since the recent defeat of the dowagers of Rhubarb Hall, cannot, of course, be supposed to have the fear of the Apothecaries' Society before his eyes; nay, he may even take shelter under the old lasses' petticoats. You may, therefore, perhaps suppose, as there is no other means of punishing him than exposure, that I have dealt with him too mildly; but you must pardon my gentle nature. I promise you, however, that whenever he, or any other blustering upstart like him, again crosses my path, I will hand him over to the tender mercies of the British Medical Association. I have merely tickled him a little with my light switch of criticism; that body would, doubtless, chastise him with a whip of scorpions.

The quack is now at Marlbrough, where, I fear, the ghost of the defunct Apothecaries' Act is not likely to molest him. All, indeed, it could now say to him would be, "Go on, Dr. Fowler, go on thy way rejoicing; go on and prosper!"

The doctor (by the way) was mulct in a penalty for a breach of the Game Laws, a few days since. Thus, by a monstrous anomaly in the law, the man who is made to pay three pounds odd shillings for knocking down a partridge, is permitted to slay the Queen's lieges with impunity.

Wiltshire, Oct. 5, 1839. Z.

P.S. I was puzzled at first sight to make out what the doctor's preparations were, so uncouth was the mode in which the clumsy executioner had gibbeted his criminals. Than worms, they looked more like "asps, basilisks, or toads;" and the idea struck me that the Prince of Cambay might have made a sumptuous breakfast upon them.

COMMUNICATION OF RABIES THROUGH THE MILK. (?)

To the Editor of THE LANCET.

SIR:—On the 20th of May last two ewe sheep were bitten by a dog labouring under hydrophobia. One of them had two lambs at her side, which were allowed to continue with her for a fortnight after the bites were received, but were then separated from her; she was bitten and torn considerably about the head. The other, also, had one lamb (a ram) with her; she had one bite only in the neck, which, however, was a severe one. The lamb was allowed to suck her the same time as the others. About six weeks after the bites the first ewe evinced the following symptoms. She was very often seen pawing and striking the other sheep like a ram (a very unusual circumstance); she was strongly convulsed at intervals; she continually turned her head to her side in a convulsive manner; the bowels were very much constipated, and what little came from her was of a red colour; she refused all food. These symptoms continued, but with always increasing violence, for about eight days, when, all hope of her recovery being abandoned, she was destroyed. A day or two afterwards the other ewe became affected in the same manner. She was killed upon the seventh day. Nine or ten days after the death of the last sheep, the ram lamb was attacked in the same way as its mother; it was, however, much more violent, butting at the other sheep, and at the hurdles, and at anything else that came in its way; its convulsions were more violent, and it was continually tearing the wool from its side; it expressed no uneasiness at the sight of water in a ditch, part of which was enclosed along with it by some hurdles: it was killed a week after the first appearance of the symptoms. The other lambs were attacked about the same time; but were not so violent as the ram: they were killed at the same time as their case appeared equally hopeless.

The great singularity which is observable in these cases, is that *the lambs became rabid merely from sucking ewes which had been bitten by a mad dog*, for the lambs were removed from them *a month before the ewes became affected*. The lambs were all carefully examined, in order to discover any bite they might have received, but not the slightest scar could be found. The same dog bit a number of other sheep in the neighbourhood, the majority of which died of rabies. What heightens the probability that he did not bite the lambs is, the fact that in every other instance his bites were very severe. He bit a man also in the hand, but the part was excised, and the patient has hitherto done well.

No attempt was made to relieve either the ewes or the lambs.

A MEDICAL STUDENT.

October 14, 1839.

[The above communication has been authenticated.—ED. L.]

WESTMINSTER MEDICAL SOCIETY.

Saturday, October 26th, 1839.

DR. CHOWNE, President.

ON THE STUDY OF EAR DISEASES.

Part of the evening was occupied by the election of officers for the current session.

Mr. JOSEPH TOYNBEE read a paper, the chief object of which was to demonstrate to the profession the present very degraded state of aural surgery; the practice of which had, through its neglect by legitimate practitioners, become synonymous with charlatanism. He proceeded in his paper to remark on the importance of the study of aural surgery, and the great facilities which modern continental practitioners had, by their inventions and labours, afforded to the student in this branch of science. The injuries inflicted upon the community by the advertising "surgeon aurists" were incalculable, and to those who had no opportunities of seeing them, almost incredible. One specimen of the manner in which patients were treated by these heartless adventurers, was mentioned by the author; we give the case in his own words:—"A patient with chronic inflammation of the membrana tympani, with purulent discharge, now under my care, was sent by a medical man to an institution founded for curing diseases of the ear. The history of the case of that patient, as detailed in my note-book, is a good illustration of the use hitherto made of the institution. The patient says, that having obtained a letter, she applied to the institution. She waited in a small room opening into the street, until it was full, and the people assembling formed a crowd on the pavement around the street door; that after they had waited there a certain time, half a dozen were let into another room, where they stood in a row, the question asked them being, "Have any of you been here before?" Those who had not, gave their names and address, which were entered upon the case book. Their symptoms were not heard, their ears were not examined, but, nevertheless, drops or powders were given. It fell to the lot of my patient to receive some most acrid drops, which were directed to be applied to the ear; they were so applied, and produced excruciating pain. This the poor creature endured, and repeated the application, hoping thus to be effectually cured. The result was, as the drawings in my note-book testify, an almost entire destruction of the membrana tympani on each side." The writer of the paper then proceeded to declare that most of the English works on diseases of the ear were beneath criticism The recent production of Pilcher, and the papers of Wharton Jones were, however, valuable additions to our knowledge on the subject. The greater part of Mr. Toynbee's address consisted of demonstrations of the various manœuvres which continental practitioners have resorted to for the purpose of coming to a correct diagnosis respecting ear diseases. We are consequently unable to make the more valuable portion of the business of the evening available for a report. Mr. Toynbee passed, with great facility, the Eustachian catheters on himself and others; he demonstrated the use of the speculum auris, the frontal bandage, a modification of Kramer's air press, and other apparatus; and concluded by exhorting the members, and the profession in general, to gain a knowledge of diseases of the ear, and the means for treating them on scientific principles.

A discussion of considerable length took place, but nothing novel was elicited.

Saturday, November 2, 1839.

MR. STREETER, PRESIDENT.

DISEASE OF THE EAR.—SOFTENING OF THE CEREBELLUM.

Mr. RODERICK related the following case. Miss —— aged 9, a private patient of Mr. Callaway, had never been of a strong habit of body, but had in general enjoyed a good state of health, until the beginning of the year 1835, when she became affected with scarlet fever, but soon recovered. Soon after convalescence, however, she became subject to deafness, with pain in the left ear, accompanied by a discharge of a thin purulent secretion of a fœtid odour. An "aurist" was consulted, who ordered an injection, probably of the sulphate of zinc, into the ear, with little benefit.

On Monday, the 19th of March, 1838, the pain in the ear became suddenly much more acute, and occupied a much larger portion of the side of the head than on former occasions. So extensive was the seat of this pain, that pressure applied to the mastoid process, caused a considerable aggravation of her sufferings. Pulse 80 and compressible. On the 20th the pain in the head was more severe, and occupied the greater part of the left side of the cranium. She also complained that the eyes were somewhat irritable, and that she could not bear the light of a candle. On the 22nd the pupil of the right eye was observed to be somewhat larger than that of the left, though it was still obedient to the impression of light. There were, occasionally, convulsive movements of both the upper and lower extremities of the right side. During the intermission, however, of the latter, she possessed full power over both extremities. About nine o'clock on the evening of the 22nd, she called for coffee, which being swallowed, was immediately vomited. The pulse was now 70 and rather

laborious. She was perfectly sensible, and answered questions put to her. She continued sensible until nearly one o'clock, when she died. The head only was examined after death. All the bones of the calvarium were remarkably healthy, with the exception of the petrous portion of the left temporal, the anterior surface of which was of a reddish appearance, caused by increased vascularity, while a portion of the surface opposite the cerebellum was roughened from ulceration. On sawing through the petrous portion to expose the internal ear, a quantity of pus was found in the latter, and the lining membrane was, in several places, destroyed by small ulcers. Both the cavity of the tympanum and the labyrinth had suffered from the disease; there was also a cavity containing about a drachm of fœtid pus, within the mastoid process of the temporal bone. The dura mater was healthy, with the exception of a small portion which lay in contact with the diseased part of the petrous portion of the temporal bone; and here it was externally coated with pus, somewhat thickened, and of a darker colour than natural.

The arachnoid was somewhat opaque in most places, but in the neighbourhood of the diseased bone the opposite portions were feebly adherent and coated with recently effused lymph. There was a large quantity of fluid infiltrated in the pia mater, and the vessels of this membrane were somewhat congested. The convolutions of the cerebrum were well developed. The cortical and cineritious portions were a little more vascular than in health; each lateral ventricle of the brain contained about four drachms of clear serum; the left lobe of the cerebellum was so much destroyed by softening, that it formed one continuous cavity; it contained, however, but a small quantity of pus. The portion of cerebellum surrounding this cavity was much injected, whilst the right lobe of the latter was healthy. The object of the narrator of the case was to ascertain whether any member had observed hemiplegia to be the result of abscess in the brain, caused or accompanied by disease of the bone; he Mr. Roderick, had never observed this to be the case; in softening, however, independent of disease in the osseous structure, he had known hemiplegia to be a frequent symptom.

Dr. Addison said that cases of genuine abscess of the brain were few and far between. When this disease did exist, it might be unaccompanied by hemiplegia, or indeed by any other symptom which could lead to suspicion of the mischief that was going on. Persons would die suddenly in apparent good health, and on examination after death, a large abscess might be found in the brain. He should say that hemiplegia from this cause, was rather the exception than the rule; and this had been accounted for by authors on the ground of the slow development of the disease and the tolerance of the brain consequent upon this gradual progression. In apoplectic seizures on the contrary, the brain was suddenly broken down, and paralysis was the result.

Mr. C. Chowne related the case of a man who was suddenly seized with apoplexy while playing at cricket. He died in two hours afterwards. In this case the left hemisphere of the brain contained a well-formed abscess, as large as a pigeon's egg, yet there had been no hemiplegia or evidence of previous disease of the brain.

Dr. James Johnson said that there was no organ of the body in which the symptoms, either of abscess or ramolissement, were so equivocal as the brain. The longer he lived the more cautious he became in giving his opinion as to the exact pathological condition of the brain in fatal cases. The occurrence or non-occurrence of hemiplegia, he considered, would depend mainly on the sudden or gradual production of the disease. If the disorganisation were gradual, then probably there would be no paralysis; if sudden, it was most probable that hemiplegia would occur.

Dr. Reid, in illustration of the difficulty of forming a correct diagnosis in diseases of the brain, related the case of a young married woman, who twelve months before her death, caught cold, and became subject to slight headaches. Three or four days before her death she became comatose, and remained so till the last. There was no hemiplegia, but she was supposed to be sinking from disease of the ear, in consequence of there being a discharge from that organ. After death no abscess was found, but a peculiar hardness at the base of the brain, so that its substance was cut with difficulty by a sharp scalpel. The internal ear was not diseased.

THE PRESENT EPIDEMIC AND ITS PECULIARITIES.

Dr. Addison inquired if any members had noticed anything peculiar in the present epidemic—scarlet fever. In addition to its malignancy and the great swelling of the throat present in many instances, he had observed a peculiar inflammation of the synovial membranes of the joints, bearing a great similitude to acute rheumatism. This affection did not come on as a sequela of the scarlatina, but in one instance during the time the eruption was on the skin, and in other cases at the end of the first or second week from the commencement of the attack.

Dr. Johnson had found scarlatina to be more fatal at the present than at any former time. He had seen but one case like that alluded to by Dr. Addison, and this proved fatal. In the present epidemic, the great engorgement about the throat, with discharge of pus from the nostrils, producing suffocation, was most commonly the termination of fatal cases.

Mr. ROBINS had found scarlet fever to be particularly severe at the present time. There was a great tendency to swelling of the glands about the neck after the subsidence of the eruption. A very moderate and carefully repeated local abstraction of blood, he had found the best means of preventing suppuration.

Mr. CHINNOCK had found the scarlatina at present prevalent, bear depletion much better than was usually the case in epidemics. He had found the rheumatic affection of the joints under discussion, to be a not unfrequent sequela of scarlatina, but he had not observed it during the presence of the disease.

Mr. GREGORY SMITH inquired whether any member had seen cases of scarlatina in which suffocation resulted from œdema of the glottis. Would not tracheotomy in severe cases of this description be justifiable?

Mr. GOODFELLOW had seen a great number of cases of scarlet fever, both in and out of the Fever Hospital. If there was any remarkable feature in the present epidemic, it was the great tendency of the cases to run into a typhoid state. Regarding inflammation of the joints, he considered this a common sequela of scarlet fever, as was also inflammation of the serous tissues.

Dr. ADDISON had not found inflammation of the joints to be a "common" sequela of scarlet fever.

Dr. CHOWNE had found this sequela to be less uncommon than the last speaker imagined.

Dr. REID observed that the scarlet fever at present prevalent in St. Giles's Infirmary, was less severe than that which prevailed three or four months since.

After a few words from other members, the Society adjourned. At the next meeting Mr. Winslow will read a paper "On Suicide medically considered."

MEDICAL SOCIETY OF LONDON.

Monday, Oct. 28, 1839.

Dr. LEONARD STEWART, President.

A paper was read on the use of the artemesia absinthium in epilepsy. It was the production of a German physician. It commenced with an elaborate description of the plant, with an historical account of its virtues, as handed down from the time of Pliny. The author then entered into the particulars of the mode of preparing the plant for use. He recommends it to be given in the form of powder, in doses of from fifty to seventy grains in a glass of warm beer, either immediately before or immediately after an epileptic seizure. The patient is then to be placed in bed, and some more warm beer administered. By these means a profuse perspiration is generally produced; this is to be carefully wiped off, and the patient may then leave his bed. The medicine is to be continued in this way so long as the fits recur. It is not necessary, however, generally, to give the dose two days successively, but to allow an interval of a day between the doses. Should no effect, however, be produced by the first dose, a second may be administered on the following day. Among a number of patients treated with this medicine by Dr. Burdach, three were entirely cured, three very much relieved, the fits becoming less severe and of less frequent occurrence; in four cases the patients remained in the same state; in six cases, of young men of eighteen or twenty years of age, in which the disease was the result of development, the attacks became more frequent. When the artemesia absinthium was administered, the writer affirmed that the first or second dose would, in the majority of cases, indicate its virtues. The cases to which the medicine under consideration was most applicable, were those in which the fits varied in number from three to fifteen in a day; in those cases in which the seizures came on twice in the day; in epileptic attacks occurring at night; in the epileptic convulsions of children, and even infants; and in attacks occurring to girls at the time of puberty, from suppression of the menses. In the latter, the epilepsy was soon controlled, and the catamenia produced. The dose would be regulated according to its effects; should perspiration not be induced, it would be necessary to increase the dose. In the first description of cases referred to, one or two doses would generally be of much service. In the second class the intervals between the seizures would speedily become longer, but it would be necessary to continue the remedy a long time. In the other cases the medicine would be used according to its effects.

Mr. HEADLAND made some observations on the necessity of receiving evidence respecting the virtues of medicines said to cure epilepsy, with caution. The artemesia vulgaris had been lately much employed in this disease. He had in one case tried its effects; he would merely state the case without comment. A boy, seventeen years of age, whose father was subject to epilepsy until he was nearly fifty, was brought to him, Mr. Headland, about five weeks since. The boy was remarkably healthy in every respect, strong and robust, but the fits appeared to have affected his intellect. He (Mr. H.) had in this case administered the expressed juice of the artemesia *vulgaris*, mixed with an equal quantity of spirit, in fifteen minim doses twice a day. After the first dose was taken, which was above a month since, the patient had no fits, although they had previously occurred three or four times in the course of the day.

Dr. THEOPHILUS THOMSON had employed the powder of artemesia absinthium in cases of epilepsy, without benefit.

A MEMBER stated that he had seen a case of epilepsy and several cases of hysteria much benefitted by the artemesia absinthium, in the North London Hospital.

Mr. PROCTER had found Griffiths' Mixture of great effect in those cases of epilepsy in which no organic disease existed, and in which there was much mobility of the nervous system.

Mr. ROBARTS related a case, in which a boy, ten or twelve years of age, subject to frequent epileptic attacks, was seized with inflammation of the brain. After his recovery from the latter disease, the epilepsy did not return. He (Mr. R.) had employed the artemesia absinthium in several cases with temporary advantage.

Mr. HONEYWOOD had seen the artemesia absinthium tried many years since in cases of epilepsy. Its effects were not beneficial. The nitrate of silver and the sulphate of zinc had been found the most effective medicines in these cases, at the City Dispensary.

Monday, November 4th, 1839.

Mr. KINGDON, President.

THE USE OF MUGWORT AND WORMWOOD IN EPILEPSY.

The Society was occupied this evening with a discussion on the nature and treatment of epilepsy, a subject quite threadbare in the annals of reporting.

With reference to the discussion of last week on the use of the artemesia absinthium and the artemesia vulgaris, as remedies for the cure of epilepsy, it would appear that the artemesia vulgaris, the common mugwort, was that used on the Continent, and recommended by Continental practitioners as possessing considerable efficacy in controlling the occurrence of epilepsy. By some accident the artemesia absinthium, or wormwood, has been employed by English physicians, and the result of the practice has been, in many cases, remarkably successful. Thus, Dr. A. T. Thomson had used it with benefit in the North London Hospital, and Dr. Bennett had given it in three cases at the Aldersgate Dispensary. In one case the improvement was remarkably striking and satisfactory; and the fits, instead of occurring twice a day, had been arrested during a period of three or four months. In the other two cases the advantage derived from the medicine was very great; but Dr. Bennett had not had the opportunity of watching the patients for any considerable time.

The mistake respecting identity which had occurred was interesting, for the plants in question possessed very different sensible properties, one being an intensely nauseous bitter, while the other was not at all disagreeable. Probably, then, the active quality of these different species of the same family might reside in some specific virtue to be found in all the species of the artemesia, and they did not act simply as tonics as many had supposed. At all events, this was an inquiry worthy of being pursued.

Mr. KINGDON stated that the author of the paper read at the last meeting of the Society (Dr. Hynam, of Antwerp) was in the habit of mixing various preparations of the metals with the powder of mugwort, such as the cyanuret of zinc and the ammonuret of iron. Perhaps these might influence the activity of the remedy. Mr. Kingdon then referred to a case of some interest occurring in a young lady, who became subject to an attack, probably, of apoplexy, for which she lost a considerable quantity of blood, recovered, and became afterwards subject to epileptic seizures. She had been taking the medicine in question as prepared by Dr. Hynam, but had been obliged to discontinue its use, in consequence of its interfering, to a serious extent, with the functions of digestion.

Mr. HEADLAND and Mr. DENDY made some remarks on the importance of arriving, if possible, at a knowledge of the exciting cause of the epileptic convulsions in the various cases which came under treatment. This, however, was a point of so much difficulty, that the treatment of the disease must, unfortunately, be more or less empirical.

A Gentleman present was convinced that the practice of onanism, carried on to a fearful extent by some young persons, was a very frequent cause of epilepsy. When he was consulted in a case of this disease, he never felt he had done his duty to his patient, until he had inquired into this particular and cautioned him of the consequence.

A singular case was referred to, which occurred in St. Thomas's Hospital some years ago. A youth had been subject to violent attacks of epilepsy, supposed to be dependent upon a spicula of bone shooting from some part of the cranium. The trephine was applied so fortunately, that in taking out the circle of bone the spicula producing the mischief was found in the middle of it, and the fits never occurred again!

MEDICO-BOTANICAL SOCIETY.

THE first meeting of this society will take place on Wednesday evening next. Dr. Sigmond will read the first paper, and has selected as its subject "The effects of opium-eating and of opium-smoking upon the human constitution."

CHARING-CROSS HOSPITAL.

EPILEPSY, WITH CLINICAL REMARKS ON ITS NATURE AND TREATMENT.

John Perry, aged 48, a silversmith, of short stature and dark complexion, was admitted, on the 1st of October, under the care of Dr. Chowne. Some months since, after experiencing numerous uneasy sensations of a general, rather than a specific character, with disordered feelings in the stomach and bowels, and some slight giddiness with a sense of fulness in the head; he had, for the second time, an epileptic fit; on that occasion he was prescribed for as an out-patient, had calomel, with other purgative medicines, and was cupped. The alvine dejections were black, and of an unhealthy character. The general symptoms were relieved, and by a continuation of the aperient treatment for a short time, all uneasy sensations were removed, and he did not have a recurrence of the fit.

About twelve months after this, he again applied to the hospital, complaining that he experienced sensations similar to those prior to the first attack. The treatment which had been adopted before was repeated, and he again got well without a fit. A few weeks subsequently to this, he had a return of the admonitory symptoms, which were followed by a fit; on that occasion he was admitted into the hospital, underwent similar treatment, and was enabled in a short time to leave and to resume his occupation. Two or three days prior to his present admission he had again experienced admonitory symptoms, which again were followed by epilepsy. His habits were regular, and he had not departed from those habits, nor had any thing occurred to which he could attribute the recurrence of the attacks. Dr. Chowne observed that there were few things more difficult than establishing the pathology of individual cases of epilepsy. We could sometimes trace epileptic fits, with tolerable certainty, to causes, but far more frequently, the cause was beyond our reach, and our practice was guided by the present state and symptoms of our patient, rather than by indications of the seat of the disease being in any particular organ, or in the derangement of this or that particular function. We were very prone to look for the cause of epilepsy within the cranium, and to consider that fulness was the most common state of the vessels. We should do well to recollect, however, that although hyperæmia might be, and undoubtedly was, a frequent cause, anæmia was also frequently productive of epilepsy, of which we have indubitable proof in those examples dependent upon hæmorrhage. It was particularly necessary in the treatment of epilepsy to keep that fact in view, and with reference to that object, to recollect also that the sensations described by the patient were often similar under both circumstances, as headache, giddiness, confusion of thought, spectral illusions, throbbings, &c., and that the general state of the patient must be taken into account. We could not possibly use too much precaution in guarding ourselves against an erroneous diagnosis in that particular, in all disorders which seemed to be connected with the head. It was so common to attribute disordered sensations of the head to determination of blood, that we were in danger of forgetting that there might be too little as well as too much blood in the vessels; and there were some, whose practice would lead us to suppose, that although the vessels might be too full, they never could be full enough for them. It was proper further to recollect, that neither fulness of the blood-vessels in the brain on the one hand, nor the opposite state on the other, was essential, even as a general rule, to the existence of epilepsy.

Some had considered alterations of structure within the cranium to be generally a cause of epilepsy, as spiculæ of bone projecting from the base or other part of the cranium; ossification of the arteries or the membranes, or thickening of the cranium itself; but dissections, almost innumerable, had taken place, in which such changes had not been found. Others had considered that altered structure of some part of the cerebrum or cerebellum was the cause. A society in Germany, together with the anatomist Wenzel, examined numerous brains, with the design of determining this question, and according to their experience, in fifteen cases out of twenty, the cerebrum was not diseased, but the pineal gland and cerebellum were. They were altered, according to these anatomists, in consistence, colour, and size.

These observations, however, were far from satisfactory; for we found all degrees of variety as to the consistence, colour, and size of these individual parts, even where there was entire freedom from epilepsy.

In considering the pathology of epilepsy, indeed, so little uniformity was there as to the conditions under which it occurred, that we were soon driven from the inquiry of what were the states of the system, either as it regarded anatomy or physiology, under which it might exist, to that of what were the states in which it might not exist. We perceived irritations distant from the brain, and not especially connected with it, frequently productive of epilepsy, as teething, worms, slight wounds, and other sources of irritation in children, and calculus in the bladder, with other similar irritation in the adult. Suppressions of discharges, without obvious metastesis, or any appreciable disorder of other functions, were not unfrequently the apparent causes of epilepsy.

In some instances extreme apprehension or dread, in others the sudden removal of dread or apprehension; in some, extreme pain; in others, cessation from extreme pain, as in the case of gout, were productive of epilepsy; and we saw numerous attacks which both began and were perpetuated without any assignable cause — cases in which, during the intermissions, there appeared to be complete good health. There was a practical point, however, of some interest, in connection with epilepsy generally, in which there subsisted a degree of uniformity worthy of being recollected. Epilepsy very commonly made its first attack during a disordered state of the primæ viæ, and its recurrences were very commonly associated with a similar state; so commonly, indeed, as to constitute some degree of uniformity, and to direct the attention strongly to the practical utility of plans of treatment directed to the removal of any unhealthy condition of that part of the system. Me, Dr. Chowne, had every reason to believe that the worst case of epilepsy he ever saw, which had not a fatal termination, originated in a disordered state of the digestive organs. The female patient, Bishop, the students would recollect, had epileptic convulsions so intense, that she had for hours the appearance of a person in *articulo mortis*, and presented so hopeless an appearance, that it seemed almost unnecessary to prescribe for her; knowing, however, the peculiar tenacity of life under such circumstances, and the possibility of the irritation being a removable one, he prescribed for her calomel, with active purgatives, aided by enemata; and he had the satisfaction, at his next visit, to find her, although dreadfully exhausted, free from convulsions. The primæ viæ had been relieved by the purgatives, of very copious, black, fœtid, bad accumulations. The aperients were repeated as the strength of the patient permitted, and she finally lost her fits, and regained her usual healthful appearance and feelings. She, however, soon lapsed into her former state, although not to so great a degree. She applied early, and was again relieved by aperients; the action of which, besides the good effect upon the health, gave satisfactory demonstration that the bowels had again become disordered. The unfortunate patient Bishop presented an example of that which, unhappily, we too frequently saw, that although we might, by medicines, remove the apparent cause, sometimes intercept the attack, and for a period exercise a decidedly beneficial control over the disease, yet finally a cause infinitely less potent than that which, in the onset, seemed necessary, was sufficient to disturb the nervous system, and to reproduce convulsions; as if the system acquired increased susceptibility and greater proneness after each attack. Neither in Bishop nor in Perry were there any cognisable proofs of original cerebral or vascular affections, nor in Bishop of any uterine disorder. In both, the most prominent symptoms, on their first attack, were those connected with disorder of the primæ viæ; in both, the first attacks were removed, and apprehended attacks, of which the premonitory symptoms were experienced, were intercepted by the use of purgative medicine. For although in Perry's case cupping and bleeding were had recourse to in the first instance, he, Dr. Chowne, did not attribute much benefit to them. In both patients, however, the susceptibility to the attacks had increased. The female patient Bishop still, by immediate recourse to purgatives when admonitory symptoms threatened, escaped a return of absolute epilepsy. Increased proneness to the attack, however, was indubitable, and he feared it would still increase. Perry's constitution was evincing a similar tendency, and there was scarcely a day when he visited him, on going round the wards, that he did not complain of some sensations which he dreaded, and which he feared were forerunners of another fit. And yet this patient was without any indications for depletion. He had had uneasy sensations in his head, occasional appearances, as of sparks of light, before his eyes, and his memory was somewhat confused; but then he had no throbbing, impatience of light or noise, suffusion of the conjunctiva, or pain of the head. He had had counter-irritants applied, and these seemed to have slightly relieved him. His countenance was pale; skin rather cool; and pulse natural. There was, therefore, no indication for general depletion. He, Dr. Chowne, indeed, was fearful that depletion would increase both his debility and his suceptibility; and he, therefore, did not have recourse to it. He had appeared lately to improve under the use of the mild acid tonic he was taking, together with moderately nutritious diet, and medicines to regulate the functions of the alimentary canal. As his, Dr. Chowne's, faith in specifics for this disease was by no means strong, he purposed continuing the plan he was upon; although, as he had already said, they must be prepared to find the susceptibility, and, consequently, the malady increase.

UNIVERSITY COLLEGE HOSPITAL.

TUMOUR OF THE LOWER JAW OPERATION.

History.—H. S., aged 20, was admitted on the 7th of October, under the care of Mr. Liston. She is a silk platter, of sanguineous temperament. Has never enjoyed very good health, and has constantly suffered from tooth-ache. About three years ago, a tumour in the lower jaw was removed, after which

she perceived a swelling, which she thought was a gum-boil. She was accustomed to irritate it, and make it bleed; after which it was always easier. There never was any matter in the swelling of the gum; it has gradually increased up to the present time. Escharotics have been applied to it, but they have been of no service. She suffered little pain, except when she occasionally caught cold. *Present state*:—On the left side of the lower jaw is a tumour about as large as a hen's egg, rather firm, elastic, and of the consistence and appearance of the gum. It is somewhat ulcerated, and bears the marks of depressions made by the teeth of the upper jaw. On the side of the jaw occupied by the tumour, she has only a small stump. The tumour is free from pain, and unless when pressed or irritated, does not bleed. She has no swelling of the glands of the neck. The face is fuller on the left than the right side; her general health is good; bowels confined; menstruation natural; pulse 74; sleeps well; tongue clean. As the tumour continues to increase, and as the health of the patient is good, Mr. Liston has determined on removing that portion of the jaw which is occupied by the tumour. He considers that as the tumour encroaches on the angle, it will be necessary to remove the jaw at its articulation on the left side, but he will determine this point when he has commenced the operation, as the exact extent of the tumour can be then ascertained. With this determination on the

11th. He proceeded to the operation. The patient was seated in a chair, and the left canine tooth was extracted. The left carotid was then compressed by an assistant. With a strong pointed and large bistoury, an incision was made on the left side, commencing opposite the ear, and a little below the zygoma, passing behind the angle of the jaw and terminating an inch from the symphysis. The inner extremity of the incision being hooked upwards towards the mouth, the flap of skin was raised from the jaw; the knife was then passed below, and the muscles and mucous membrane of the mouth dissected from the bone at the inner extremity, so as to permit the fore-finger to pass freely around it. The jaw was then partially sawn through with Key's saw, and its division completed with the cutting forceps; its inner extremity being free, the muscles were dissected from it as far as the angle. The flap of skin was now raised upwards, and Mr. Liston seized the tumour and jaw firmly in his left hand, depressed it with force, and divided the attachment of the temporal muscle to the coronoid process. The anterior part of the articulation was now opened, the jaw was still further depressed, and the knife was passed behind the condyle, being at the same time closely applied to it. The disarticulation was thus completed. The whole proceeding occupied about three minutes. During the operation, the divided extremities of the facial, transverse facial, and dental arteries, bled freely; there was also a good deal of venous hæmorrhage, and the patient lost altogether about twelve ounces of blood. Two arteries were secured immediately after the operation, and two hare-lip needles and twisted sutures brought together the anterior extremity of the wound. Cold water dressing was applied, and the patient put to bed.

11 P.M. (nine hours after the operation.) Pulse quick, 120; patient has vomited twice; two small arteries have been secured; wound brought together with four sutures and isinglass plaister.

12. Slight erythema about the wound; has slept a good deal during the night; pulse 120; thirsty, skin hot; not much pain; bowels confined; five grains of calomel ordered to be taken directly, and an antimonial saline draught every four hours; the draught produced vomiting; in the evening the erythema had disappeared, and she was more comfortable.

13. Bowels not open; slept pretty well; pulse 120, still feverish; wound but slightly painful; sutures and hare-lip pins removed; healthy discharge from the wound. To have five grains of calomel and twelve grains of jalap immediately. In the evening the bowels acted freely; much the same as in the morning.

14. Going on favourably; passed a good night.

15. The upper part of the wound has united; the saliva and some healthy pus escape from the lower part; bowels open; fever gone; pulse 75.

19. Doing well; wound healing.

The muscles on one side of the jaw being gone, in order to counteract those on the opposite side, keep the teeth in opposition, and enable the patient to grind. Mr. Hunter, who has on several occasions assisted the patients of this hospital with his ingenious contrivances, made, by Mr. Liston's directions, a small apparatus in silver, which fitting closely to the lower teeth, in the form of a cap, receives the upper teeth, and keeps them immoveable so long as the patient's mouth is closed; the object in view will be thus effected.

21. Out of bed to-day, and quite well.

In some clinical observations on the above case, and that of A. P., Mr. Liston said that the lower jaw was liable to the formation of tumours of various kinds. The most common form of tumour was that which consisted in a simple enlargement of the outer table of the bone; a sort of ivory exostosis, and nearly similar in texture to the external table of bone, and slow of growth. Other swellings, of a less benign character, were, however, occasionally found, and it might be stated as a general fact, that the

further these tumours were removed, in consistence, from the original tissue, the more liable they were to take on a malignant action. In cases where the jaw was effected to any extent, removal of the diseased mass was the only means of ensuring the safety of the patient. If the tumour did not involve the base of the jaw, then the disease might be removed by sawing down on each side of the tumour sufficiently deep to admit of the application of a pair of cross-cutting forceps. It would be necessary, however, after this operation, to examine the part well, to see that no portion of the disease was left. In more severe cases, where the tumour involved the bone of the jaw, the only effectual mode of proceeding, was division of the bone on one or both sides wide of the tumour, or division at one point only, and disarticulation. To effect this purpose, he preferred the mode he had pursued in the two cases under consideration, to any of the plans which had been recommended by continental surgeons: less deformity was produced by this mode of operation than by any other. In some cases it had been thought advisable to save the ramus, but it was not desirable to attempt this where the tumour was at all likely to involve the retained part at some future period; for should this untoward event occur, it would be found exceedingly difficult to get the ramus away. In one case, in which he had to resort to this proceeding, in consequence of its becoming affected by a growth similar to the one removed with a portion of the jaw at a former time, he found the greatest difficulty in affecting his object, and had to cut into the articulation from behind, a proceeding by no means either pleasant or safe.

HERNIA. DIRECT. INCOMPLETE.

S. D., aged 62, was admitted Sept. 28, at 11 P.M. She is a laundress. For the last six weeks she has felt some pain in the right inguinal region, on lifting any weight. On Wednesday, the 25th of the present month, she was lifting some clothes, and on making a violent effort she felt something give way in the right inguinal region. Since that time she has suffered from obstinate constipation, with vomiting after taking any food or medicine. She was treated for constipation; strong purgatives were administered. A blister was applied to the stomach, and leeches to the tumour in the inguinal region. She was brought into the hospital about half-past 11 P.M., on Saturday, to be operated upon.

Operation.—An incision four inches in length was made through the skin in the direction of the inguinal canal, and downwards towards the right labium. The superficial fascia was dissected through, and the tendon of the external oblique muscle and the external ring exposed. The tendon was divided upwards, and a hernial sac brought into view. The sac, which was of considerable thickness, having been divided, a small knuckle of intestine was exposed, of a chocolate colour, apparently not much congested. The parts through which it protruded, being the tendon of the internal oblique and the transversalis, caused the stricture, which was extremely narrow, and was divided upwards in the direction of the linea alba, with some difficulty, on account of the tightness with which it embraced the intestine. The intestine was replaced, a spica bandage and a compress applied, and an ounce of castor oil administered some hours afterwards. There was not much tenderness of the abdomen on pressure, even previous to the operation.

29. Tongue dry and furred. Pulse 110; great thirst; some pain in the head; slight pain on pressing the abdomen; not much heat of surface; bowels have been opened four times; some vomiting; twelve leeches to the abdomen; to have five grains of calomel and one of opium directly. *Vespere*—Vomiting has continued during the day, and the matter rejected is apparently fæcal. An enema was given, which brought away a large quantity of fæces.

30. Tongue still dry and furred. Pulse 120; great thirst; not so much tension of the abdomen; the wound had filled with a clot of blood, which was removed, and a small artery began to bleed; this was tied. A turpentine enema was given, and a large quantity of fæcal matter brought away; bread poultice applied to the wound. To have three grains of calomel, and one of opium, directly.

Oct. 1. Has been a good deal purged; the tension and pain in the abdomen have quite subsided; no vomiting since yesterday evening; no pain in the abdomen on pressure; pulse 100; tongue remains in the same state, dry, brown, and furred; complains of great feebleness. Pulse intermits. She died at 11 P.M.

After death Appearances.

Great effusion of blood under the abdominal integuments; the wound made in the operation had a sloughy appearance. On removing the abdominal parietes, serum was found in the cavity, and lymph effused over the whole intestines, causing strong and quite recently formed adhesions in every direction. The portion of ilium which had been strangulated was adherent by effused lymph to the abdominal parietes, close to the part where it had protruded. On destroying this adhesion, a small ulceration was discovered, which had not quite perforated the inner coat of the bowel. At the situation of the conjoined tendon was a small opening, the size of a quill, but enlarged upwards by the incisions of the surgeon, through which the bowel had protruded. The intestines were

generally much reddened, and injected with blood.

In some remarks on this case, Mr. Liston stated, that hernia, and the operation for its relief when strangulated, although a capital one, were essentially necessary to be studied by every surgeon. Generally speaking, the taxis, if applied early and industriously, would be sufficient, and there was much less danger from its employment than from cutting into the peritonæum. The present case was interesting in some respects. Inguinal hernia was not usual in females, and in this the course of the protrusion, instead of being along the inguinal canal, was directly through the abdominal parieties, above the external abdominal ring; there was also an additional covering to the tumour. The epigastric artery lay upon the outer side, and great danger would have resulted from the division of the structure in that direction. The incision was consequently made directly upwards.

CASE OF ACUTE ANASARCA OF THE SCROTUM AND PENIS.

J. B., aged 41, was admitted on the 24th of September, under the care of Mr. Cooper. He is a married labourer, of strong muscular conformation and of sanguineous temperament; his general health has been good, and he has led a tolerably regular life. He states that, during the night of the 22nd, without any appreciable exciting cause, he felt some pain in the right groin, which was followed by shivering, sweating, thirst, and a dark turbid state of the urine, which, however, passed freely. On the 23rd the lower part of the scrotum began to swell, and the swelling extended so rapidly that in a few hours the scrotum and penis were increased to seven or eight times their natural dimensions. There was very little pain. The urine flowed freely, but was dark coloured. He passed a restless night, and applied vinegar and water to the parts without relief. On presenting himself at the hospital he complained of little pain; the scrotum and penis were found swollen to the extent mentioned, and the under and lower part of the scrotum was darker coloured than the rest, which was of a deep red. It felt much hotter than the rest of the body, and gave him some pain on pressure; the tongue was furred and white; the bowels confined; thirst great; pulse 90, and hard; surface of the body warm; there was also an enlargement of the right tibia, with a small ulcer on its surface. He was put to bed; a number 11 catheter was passed into the bladder without difficulty, and afterwards removed. A free incision, full two inches in depth, was made into the lower darker coloured part of the scrotum; the cellular tissue was found in a sloughy state. Hot fomentations were applied to the part; to take five grains of calomel, followed by a cathartic draught.

25. All the symptoms relieved; swelling much less. Continue the fomentations.

26. The upper part of the scrotum felt boggy; an incision was therefore made into it, and the cellular tissue was found in a sloughy state.

30. A large slough has been discharged through the first incision; the swelling greatly lessened; sleeps well; health good.

Oct. 2. A slough discharged through the second incision; penis almost of its natural size.

12. The scrotum reduced to its healthy dimensions; the sores left by the incisions healthy and healing fast.

21. Doing well.

CONCUSSION, WITH LACERATION AND COMPRESSION OF THE BRAIN.

J. T., aged 50, was admitted under Mr. Cooper, at 5 P. M., on the 26th of September. He is a post-boy, stout and heavy in his person. He was thrown from the horse he was riding, while going at a moderate pace, by the horse stumbling, and he came head foremost to the ground.

When brought to the hospital (after having been bled by a surgeon, who came up just as the accident happened, to twelve ounces), he was completely insensible, and incapable of being roused; pupils dilated, but contractile on the approach of a light; the countenance congested and bloated; the mouth firmly closed; breathing slightly stertorous, twenty in a minute; pulse 70, easily compressed; surface of the body and the extremities colder than natural. On having the head shaved, some slight puffiness of the left temple was observed, but no fracture of the skull could be detected, nor any mark of violence seen on any other part of the body; he was put to bed, and hot water was applied to his feet.

7 P.M. Pulse 95; body warmer; he was bled to twelve ounces, which considerably reduced the pulse; thirty leeches to be applied to the temples; he was placed upright, in a sitting position, in bed. His mouth being forced open, ten grains of calomel and a minim and a half of croton oil were put upon the tongue.

Ten P. M. Insensibility remains; has broken out into a profuse perspiration; pulse 124, full and strong; breathing more stertorous. He was bled to 24 ounces, which reduced the pulse; cold lotion to the head.

27. 9 A.M. Total insensibility; pulse 160, very weak; breathing 48 in the minute; pupils contractile, the left larger than the right; frequent twitchings of the right arm, no motion of the left arm; the urine was drawn off by the catheter; smells ammonical.

Five P.M. No material change occurred, and he died.

After-death Appearances.

The body was examined twenty hours after death.

Blood was extravasated under the scalp covering the left parietal and temporal bones; dura mater healthy and entire; arachnoid opaque and thickened; left hemisphere of the brain healthy; the under surface of the middle lobe of the left hemisphere (the side opposite the part of the head injured) was found lacerated to the extent of an inch; blood was effused into its substance, and there was about an ounce of blood lying on the dura mater, under the brain at this point.

On examining the skull, a fracture was detected, extending from the temporal angle of the left parietal bone, just at the part corresponding to the external ecchymosis, through the left temporal bone, across the great ala and body of the sphenoid bone to the foramen lacerum anterius of the right side; other organs healthy.

ST. BARTHOLOMEW'S HOSPITAL.

HERNIA.

George Sims, admitted Oct. 21, under the care of Mr. Vincent. He was suffering from all the symptoms of strangulated hernia, but was in such distress that no collected history of his case could be obtained. The taxis having proved ineffectual in restoring the intestine, Mr. Vincent operated at ten at night. The hernia was a femoral one, about the size of an apple, and after the crural canal was laid open, Poupart's ligament was freely divided, and the intestine returned certainly within the confines of the abdomen. The operation afforded no relief to the symptoms. He was ordered an enema, and ten grains of the calomel and jalap pill.

22. No relief; the bowels have not been moved; occasional vomiting continues; great tenderness over the abdomen; hot and dry skin; pulse very irregular and unequal. We counted it once 96, and within an hour 140. He is almost unconscious. Twenty-four leeches to the abdomen; warm bath; enema.

Brandy, half a pint;
Calomel, ij grains;
Opium, ¼ grain, at once.

Vespere. Warm bath.

Calomel, iv. grains;
Opium, ¼ grain.

23. No improvement. He was ordered another half-pint of brandy, and an enema.

Calomel, ij. grains;
Opium, iss. grain.

This pill was repeated in the evening, and he had another warm bath.

24. All the symptoms exasperated; he has a convulsive hiccup; great restlessness fever; pulse low and irregular. He is almost totally insensible; eyes glazed, and lips livid. No further means were adopted, and he died on the 25th.

The friends would not allow a post-mortem examination of the body.

VENTRO-VAGINAL FISTULA.

There has been a case of this disease in the hospital during the past week, under Mr. Stanley. The disease commenced many years ago. It appears the woman's first labour was very lingering, and sloughing of the vagina followed. A small portion of intestine then descended into the vagina, but not to such an extent as to prevent conception, for she afterwards bore six children. A pessary was then employed, which she wore till it produced retention of the urine, for the relief of which she was admitted into the London Hospital. Some operation was performed to extract the pessary, by which the aperture in the vagina was increased; and, since then, whenever she stands up, large portions of intestine pass through the os externum. If no bandage be applied, they are of the size of a large child's head. Mr. Stanley wished to pare the edges of the fistula, and thus endeavour to promote either adhesion, or great contraction of the opening. She refused, however, to submit to the operation, and was accordingly discharged.

This case is interesting from its rarity, and the extent of the fistula. It must be exceedingly uncommon, as Madame Boivin, in her work on the diseases of the uterus, does not refer to it.

SCALD OF THE GLOTTIS.—BRONCHOTOMY.

On Friday evening, October 18, about five o'clock, a child, three years old, named Whitehead, was brought in, after having swallowed boiling water, or inhaled its steam. The mother had been in the habit of giving it tea from the spout of a teapot, which had led the child to apply to the spout of a teakettle. There was difficult deglutition, pain in the throat, and all the symptoms of croup. The mother would not allow the child to remain in the Hospital; but finding it was getting worse she brought it again about eleven at night, with all the symptoms alarmingly aggravated. One of the surgeons was sent for, but before he arrived the danger of asphyxia was so imminent, that Mr. Travers, the house-surgeon, performed the operation of bronchotomy. Immediate relief was afforded; but the child died about ten on Saturday night.

This is one of a class of cases where the *early* performance of bronchotomy is imperatively called for, the fatal symptoms being produced, in the great majority of cases, not by the local injury which such accidents must produce, but by the effects on the glottis impeding the transit of air, thus produc-

ing an impediment to respiration. The pathological changes are excoriation of the mouth and fauces; effusion of serum into the submucous tissue around the glottis; many small vesicles on the surface of the mucous membrane; with vascularity, and a coating of lymph, or viscid mucus, on it.

Many cases are recorded of success under these circumstances, even when death was at hand; but if success is to be expected with confidence, the trachea must be opened before cerebral congestion, or effusion into the pulmonary tissue, has occurred. In the case before us there is little doubt, that had the woman submitted her child, at first, to its performance, a different result would have ensued.

HYDROCELE.—INJECTION OF PURE PORT WINE.

A man named Mackenzie, aged 50, admitted Oct. 11, was operated on for hydrocele on Saturday, Oct. 12. The disease came on six years ago, without assignable cause. He was tapped two years ago, but the sac was not injected. On admission he was suffering no pain, but merely came in to be relieved from the inconvenience produced by the size of the tumour, which was nearly as large as the head of a small infant. The surgeon introduced the trocar without previously dividing the skin. This is generally omitted, but it prevents the trocar entering with a jerk, and thereby removes all danger to the testicle. About half a pint of fluid was evacuated, and then port wine, undiluted, was injected. It was removed as soon as pain came on. He has had no more local inflammation or constitutional disturbance than was to be looked for, and went out, probably, with a radical cure.

On the same day Mr. Stanley, also, injected pure port wine, and with similar favourable results, his patient having been discharged on Saturday the 19th.

DISLOCATION OF HUMERUS INTO AXILLA.—REDUCTION AFTER THREE WEEKS.

A woman, aged about 50, was admitted last week with dislocation of the humerus into the axilla. It was a well marked case, there being elongation of the arm, a hollow under the acromion, flattening of the shoulder, elbow protruded from the side, and the round head of the bone could be felt in the axilla. These signs may all exist in fracture of the acromion, or of the neck of the scapula, but then the arm is easily replaced, and crepitus produced, the arm again falling when our support is removed. It is said this dislocation has been mistaken for fracture of the neck of the humerus; but here, instead of elongation, we have shortening of the limb, and in place of the round head of the bone, we feel the sharp, rough, or irregular end of the shaft in the axilla.

Several unsuccessful attempts at reduction having been made in the country, the woman was brought to London, and was led into the operating theatre on Saturday, just three weeks after the accident occurred. She was first placed in a semi-recumbent posture, a towel was fastened round the wrist, and a cord appended to this was passed through a pulley fixed just above her head. Thus the arm was pulled directly upwards; with the exception of great suffering, no effect was produced—indeed, the attempt appeared a very ill-directed one, for though, by this position of the arm, the deltoid and some of the capsular muscles are relaxed, yet little effective means being adopted to fix the scapula, as the cord was tightened, so was the patient raised, and the weight of her body became the principal counter-extending force. After persevering thus, for some time, the plan was altered; a large pad was placed in the axilla as a fulcrum, and the pulleys so fixed, that the arm was pulled in a line parallel with the body. The bone returned almost immediately with a snap. This is a mere modification of Sir Astley Cooper's plan of the heel in the axilla, which is far the most effective in the generality of cases.

STRANGULATED CONGENITAL SCROTAL HERNIA. OPERATION.

On Saturday, October 19, a young man was admitted, suffering from all the symptoms of strangulated hernia. He was carrying a sack of potatoes the night before, in the street, when he suddenly felt severe griping, and was troubled with flatulence. He vomited soon after he got home, and the symptoms continued to increase till his admission into the hospital. He then denied having, or ever having had, any hernial protusion whatever. On examination, a scrotal hernia, however, was discovered, when he declared he never observed the tumour before. The taxis having proved unsuccessful, though all the ordinary means were used, the man was brought into the operating theatre, and Mr. Vincent proceeded to perform the necessary operation for the relief of the incarcerated bowel. The incision was made in the usual direction and extent, when, after laying bare and dividing the coverings of the sac, it was found that the hernia was a congenital one; the tunica vaginalis testis forming the sac, to which a considerable portion of omentum was adherent. It was evident that a large portion of the strangulated intestine had recently descended, and been the cause of the symptoms. The intestine was not gangrenous, but very red, in many parts purple, from intense injection, distinctly in a state of active congestion. No great difficulty occurred in returning it, after the division of the stricture, but the termination of the operation was delayed for some time, as Mr. Vincent had removed the omentum which adhered to the sac, and it was necessary to tie several vessels. Not much blood

was lost, but the poor fellow was carried out much exhausted. No clinical remarks were made, which is much to be regretted, as the case was admirably fitted to illustrate the treatment to be pursued with regard to the omentum, after operations for strangulated hernia. A number of students cannot be expected to know, by intuition, what is passing in the mind of the surgeon before he determines on the practice to pursue in a case on which such difference of opinion obtains among surgeons.

20. Feverish; thirsty; bowels not moved; some tenderness of the abdomen.

Sulp. of Magnesia, two drachms;
Peppermint Water, one ounce. A draught every two hours.

Sixteen leeches to the abdomen, and warm fomentations.

21. In the morning, saline effervescing draughts were ordered, and twelve leeches to the abdomen. At noon, he was still feverish; face flushed; very thirsty; and suffering from pain in the abdomen; twenty-four more leeches were ordered, and, though the bowels were open, a dose of calomel and jalap.

23. The pain, tenderness, and fever, continue; pulse 135; bowels freely open. Continue medicines.

After this all the symptoms continued increasing, and no further means were adopted. He died on the 24th.

THE LANCET.

London, Saturday, November 9, 1839.

A MEETING has recently been held, in the theatre of the Literary and Scientific Institution, Aldersgate-street, to consider the propriety of forming a Self-supporting Establishment, for the reception and cure of sick persons of the middle classes of both sexes. Dr. ARNOTT was in the chair. The institution is to be called a *Sanatorium*. Dr. SOUTHWOOD SMITH, the projector, explained the nature of the plan to the meeting. Its *professed* object was to apply the principle of co-operation for the purpose of securing, at a cheap rate, the accommodation required in sickness. "The classes of persons," he said, "for whom it was designed were enumerated "in the prospectus, viz., young men who "pursue education, science, and the fine arts, "as professions; who are engaged in the "offices and courts of law, and in the "schools of medicine, for the purpose of "completing their professional education; "who are employed in the various govern- "ment offices, in the legal and medical pro- "fessions, in the church, in merchants' "counting-houses, in banking-houses, and "other large establishments; and unmarried "women who pursue education, literature, "music, and the fine arts, as professions, or "who, whatever be their occupations, are "merely residents in families, but not pro- "perly parts of those families. These per- "sons, though not rich, though earning "their subsistence by their own exertions "(often exceedingly laborious), were all of "them willing, and most of them able, to "pay moderately for the assistance they "needed when afflicted with disease. But "their own dwelling-houses, or rather their "apartments in such dwelling-houses, were "in general destitute of the accommoda- "tions which were indispensably necessary "in sickness, not to say of the conveniences "and comforts which lessened its severity and "diminished its danger. To supply these ac- "commodations, it was proposed to found "an establishment on a scale of moderate "magnitude, that is, capable in the first in- "stance of containing from eighty to one "hundred beds together, with apartments "that may be suitable for convalescents. In "this establishment it was proposed to com- "bine every thing that science could suggest "and art accomplish, that was really con- "ducive to the safe, rapid, and effectual "cure of diseases. By this was to be un- "derstood perfect ventilation, exact adjust- "ment of temperature, proper regulation of "diet, regular administration of medicine; "in a word, the strict and constant perform- "ance of every thing that came under the "very comprehensive term—good nursing."

The establishment to be supported by an annual subscription of a guinea, which will constitute a member, and by the payment, on the part of every patient, of a certain sum weekly during his residence. The weekly sum to be fixed from time to time

by the committee of management, and to be large enough to meet the expenditure, but as low as may be compatible with that end. A subscriber to be admitted at a lower rate of payment, and to be allowed to recommend to any extent, but he would make himself responsible, by the act of recommendation, for the payment of the weekly sum due to the Institution from the person recommended. None but members, or persons recommended by members, to be admitted.

Dr. Smith's statement contained no information upon two important points—the means of providing a suitable building which will contain one hundred beds, and the mode in which the medical attendance is to be supplied. The Hospitals in this country did not cost in the erection less than £200 per bed; and, upon a very moderate calculation, £10,000 would not render the *Sanatorium* fit for the reception of the contemplated classes. The guinea subscription will not supply this sum; the money, then, must be borrowed, or be subscribed by a proprietary body, as no appeal is to be made to public charity. Moreover, there will be a risk of failure; and the proprietors will not sink capital without the prospect of a rate of return which will be equivalent to the interest and the risk. The projector must bear in mind that his scheme cannot be realised without capital, and we see no provision in his plan for furnishing the fabric of his inventive vision with this solid basis. Why are the persons to whom he refers, in noisy, close, incommodious chambers, homeless, and without adequate attendance or nursing in sickness? Simply because they have little accumulated capital. It is desirable to furnish them with the advantages which the rich enjoy in sickness, without having recourse to public charity; the means by which this is to be accomplished is the sole difficulty to be met, and Dr. Smith should have distinctly stated in what way he proposed to grapple with, and overcome, so formidable an obstacle. Are the patients to be attended by a medical officer appointed by the managing committee' or by practitioners of their own selection? The support which the *Sanatorium*, or *Sanatoria*, could receive from the medical profession, would probably depend in some degree upon the mode in which this was arranged. After all, however, is it not a Penny-Club project, upon a gigantic scale? Such is our present impression.

But supposing the machinery to be unobjectionable and effective, let us examine the reasons by which the *Sanatorium* is recommended to public support. Mr. Chadwick observed, that one benefit of the proposed Institution would be, that it would relieve the establishments intended for the working classes of some of the undue pressure upon their resources. From want of places to which they might have recourse in illness, a large proportion of the middle class were thrown upon the Institutions intended for the poor; and it was a subject of complaint, that hospital relief was obtained by persons for whom it was never intended. Of this there can be no doubt. Medical charity is abused to an inconceivable extent. Frequent examples of the abuse are brought under our notice. The *North and South Wales Independent*, of Saturday last, contains the following charge, brought by Mr. Roberts, the surgeon, against the Rev. Mr. Price, at the annual meeting of the Governors of the Bangor Dispensary:—Mr. Price, it was maintained, had availed himself of the services of the house-apothecary, who had attended the reverend gentleman, his family, and his pupils, when conducting Friar's School; and this had been carried on for two years. His servants had been always attended at the expense of the Institution, and he had granted recommendatory letters to persons whom he well knew to be improper objects of charity. Mr. Price admitted that the house-apothecary had removed a tumour from his head, *which*, he said, was at that moment in the Dispensary, preserved in a bottle. He denied that Mr. Lewis Jones the house-apothecary, had attended his pupils; but afterwards admitted that *Mrs.*

Price might have employed him in the school, and suggested the propriety of sending for her. This was manifestly a *ruse de guerre*; and the *Reverend* Mr. Hamer slily remarked that it was unnecessary, as her jurisdiction did not extend to the Dispensary. Mr. Price had recommended Mrs. Jonathan, a respectable milliner, whose husband was a house-painter and lodging-house-keeper; besides other improper objects. He had granted tickets to his servants; but said, that he was not singular in this breach of the rules, as *the Bishop had done the same thing*. When Mr. Price was asked whether the house-apothecary was ever remunerated for his services, he replied, "Dear me, no! "nothing but a cup of tea, and such trifling "civilities!"

Under the present system of medical charity, persons in moderate circumstances, tradespeople, the servants of bishops and lords, obtain gratuitous medical relief at the Dispensaries and Hospitals; so that young, and it may be poor, practitioners, are deprived of a class of patients who would employ them, and could afford to pay moderate fees for attendance. If the *Sanatorium* comes into operation, will the Parson Prices no longer avail themselves of the services of indiscriminate medical charity?

Mr. Arnott, of the King's College, has latterly been eulogising Hospitals, and has been at great pains to trace their connection with Christianity. The antiquarian Professor said less of their connection with medical schools, the facilities which they offer to the student, or the influence an Hospital might exercise upon the wintry fortunes of the King's College classes; but it is probable that he was not altogether dead to this view of the subject; and we have a strong presentiment that, upon rigid inquiry, the utility of Hospitals, as instruments of medical education, will be found much less equivocal, than as institutions for the relief and cure of the sick. Foundling Hospitals were once considered beneficent establishments. They made Vincent St. Paul a saint. They were to rescue childhood from want and misery; to snatch infants from the hands of poor, cruel, profligate mothers, and to place them in the arms of kind foster parents; to diminish the mortality; to prevent infanticide; and to be the portals of a better life to abandoned children. The prospect was flattering. But what was the actual result? Wherever a Foundling Hospital was established, the number of parents who abandoned their children rapidly increased; profligacy increased in an equal degree; infanticide was *not* diminished; for one that sucked impoverished milk, and died under the care of the cruel-hearted mothers, two or three died upon artificial pap, in the tenderer arms of institutions and hired nurses. The few motherless and fatherless survivors were outcasts on the world.

What seemed a more laudable and beneficent institution than the Lying-in Hospital—*La Maternité*? The mother was taken from her small room, with her helpless or unfriended family, and lodged in a magnificent building, supplied with linen, nurses, medical attendance, and all the appliances which her condition seemed to demand; yet the mortality was often doubled; the danger of childbirth was increased twofold, or tenfold, by removal to the Hospital; puerperal fever was fatal; epidemics raged; and the doors of the best Lying-in Hospitals have more than once been closed by contagious poisons, generated by the accumulation of childbearing women within their walls.

What has been the effect of Hospitals? The mortality of small-pox in Hospitals has generally been *thirty* per cent., whilst it has rarely exceeded ten or fifteen per cent. among the poorest classes out of doors. The mortality of fever in the best fever Hospitals is always greater than in the house of the miserable Irish peasantry. The greater part of the London Hospitals are situated in the unhealthiest districts of the metropolis; but in St. George's Hospital, which rises like a palace by Apsley House, the mortality of the in-patients, indiscriminately taken, has always exceeded ten per cent. In the *Hotel Dieu* it was at one time

twenty-five per cent. One in nine, and one in four, of the patients perish in Hospitals. Erysipelas, purulent deposits, sloughing ulcers, hospital gangrene, are hospital endemics, and surgical operations are probably twice as fatal in Hospitals as they are out of doors.

About four in a population of one hundred are constantly sick. One in thirty-three, or nearly one in every six families, is labouring under *severe sickness*. The healthy surround the sick, afford them sympathy, and supply them to the best of their ability with sustenance; and medical advice is placed more or less within their reach. What is an Hospital? A place where the sick are supplied with diet, medicines, nursing, the appliances of medical art and medical skill, at a *cheaper* rate than they could be supplied at home: it is a place, also, where all the diseases, sicknesses, sufferings, and infirmities of humanity, are concentrated; where the patients, dragged from home, and the cheering contiguity of health, are laid side by side in long cheerless wards, and breathe a fatal atmosphere from night to morning, and morning to night again: it is a gloomy garden, in which the withering, cankered, blasted, blighted plants are collected—shed their flowers, leaves, and decaying branches—mingle their exhalations—and drag each other to a kindred dust. No one can look down the wards of *La Charité*, where 50 or 100 patients are lying in rows, in every stage of disease, without a sensation of horror. What must a patient feel who enters the wards for the first time,—when he hears the sighs, the groans, the restless agitation of pain, the noisy delirium, the muttering of fever, the death-rattle in the dead hours of the night, or sees the breathless corpse removed? WORDSWORTH has described, with his accustomed simplicity, the feelings of the poor, who are driven to Hospitals, in "The Female Vagrant."

"Borne to an Hospital, I lay with brain
Drowsy and weak, and shattered memory;
I heard my neighbours, in their beds, complain
Of many things which never troubled me;
Of feet still bustling round with busy glee;
Of looks where common kindness had no part;
Of service done with careless cruelty,
Fretting the fever round the languid heart;
And groans, which, as they said, might make a dead man start."

The moral atmosphere is the dark shadow around the poison tree; it is a symbol of the subtle, floating, fatal emanation, which chemistry has yet neither been able to detect nor destroy, and which, notwithstanding the recent improvements, no mechanical contrivances can, we believe, entirely remove from the wards of Hospitals; although much might be done, if the governors were intelligent, and the medical officers did their duty, in insisting upon cleanliness, an efficient system of ventilation, and the allotment of more space to the patients confined to their beds.

Hospitals are, in the majority of cases, an imperfect substitute for the nursing and medical attendance which patients might receive at home; but in the present state of society, while the poorer classes are so much depressed, a considerable number of persons are left in sickness, without any of the comforts of home, and have no other resource than the Hospital. But we should regret to see the Hospital system extended in London as widely as it is in Paris. The money expended in Hospitals would supply the poor with medical attendance, with diet, and with drugs; and if the rooms were close and dirty, money expended in promoting cleanliness and ventilation would *prevent* future attacks, as well as contribute to the recovery of those actually sick.

In conclusion we must state, that we can offer no encouragement to the institution of a new Hospital under the name of a "SANATORIUM." We observe in it only a variety of the plans that have sprung out of the operation of the PENNY-CLUB SYSTEM,—a nefarious device for ruining the profession, which received the most strenuous and determined support of the POOR-LAW COMMISSIONERS. Who is now one of the first to come forward

and advocate the institution of a "*Sanatorium?*" Mr. EDWIN CHADWICK, the Secretary of the Poor-Law Commission. *This fact tells an instructive tale.* How has the PENNY-CLUB system operated with reference to the interests of the labouring people, and the members of the medical profession? Injuriously, *most injuriously*, to both parties. The *Sanatorium*, we have every reason for believing, will, if it be carried into effect, work out *a still greater mischief for the profession*, and become the cause of expelling from their homes, in the hour of sickness, hundreds of young men who act as assistants and shopmen in the establishments of the tradesmen of this metropolis. If such a place as the *Sanatorium* be open for their reception, it is quite certain that they will be sent there, and denied all domestic care and sympathy in the private houses of their employers. In this respect, assistants and shopmen would be sent to *Sanatoria*, in times of sickness, as domestic servants, under similar circumstances, are now sent to the public hospitals.

Believing that the new scheme is fraught with much evil, and with little that can prove advantageous to any one, we sincerely hope that the promoters of it will abandon their project, and employ their time and energies in trying to effect a thorough reform in the government of our existing Metropolitan Hospitals.

INQUESTS IN MIDDLESEX.

TO THE READERS OF THE LANCET.

35, Bedford-square, Nov. 4, 1839.

GENTLEMEN:—When the misrepresentations of my official conduct which had been circulated by a considerable portion of the press, had succeeded in producing the outbreak of the magistrates at the Sessions-House, on the 10th ultimo, the exultations of my enemies exceeded all rational bounds. Unwittingly, they thought that slander had accomplished its purpose, and that my discomfiture was a certain event. Their triumph, however, was but short-lived. Their cry of success was almost instantly repelled by the approving voices of the magistrates themselves,—of those very gentlemen who are in the commission of the peace in this county, and who, in common with many thousands of the public, had unreflectingly given credence to the oft-repeated falsehoods of a factious political press.

During the whole of my public contests I have never yet found that a public man who has a just cause to uphold him against the effect of malicious misrepresentations, need be apprehensive of the result of any struggle in which he may be engaged. The more vigorous the assault of which he is made the object, the more speedy must be his victory, the more certain and powerful the reaction on his behalf. Had there been less of *imbecility* in the attacks of the press—in that exquisite collection of paragraphs from the pens of anonymous revilers, which I embodied in my last letter—*years* might have elapsed before the injurious impressions which those statements had wrought on the public mind could have been displaced. But in the present instance, as in others, it has been amply proved that falsehood is an instrument which cannot be wielded with safety to the assailants, without the exercise of a considerable share of *discretion*, a quality the possession of which nature appears to deny in them, in order to curb the evil propensities, and defeat the intentions, of those knaves whose chief delight consists in the propagation of slander.

But who are my anonymous assailants? In what caves are they hidden, in what garrets concealed? Shall I be enabled to ferret them out,—to name them,—to hunt them through society,—to expel them from the ranks of honest men? The effort shall be made, as a public duty. I am already in possession of some of the materials which will enable me to effect so useful an exposure,—to inflict on them so well-deserved a punishment.

The nature of the misrepresentations, and the industry with which the calumniou

statements of my opponents have been circulated, can be best understood by the impressions which they had produced upon the minds of the magistrates of this county. Allow me to refer to the proceedings at the Sessions-House, on the 10th ultimo.

The Reverend THEODORE WILLIAMS commenced the attack against me, by alluding to the inquest which had been held on the body of THOMAS AUSTIN, at Hendon. He was followed by Mr. LAURIE, who made complaints relative to the holding of inquests in certain cases; and, subsequently, allegations of a very disagreeable character were made on the subject of the non-presentation of vouchers with the Coroners' accounts.

In the long discussion which ensued, the Coroners did not find one supporter among the magistrates, so completely had prejudice occupied their minds, in consequence of the infamous slanders of the press. The accounts for the previous month of August had been AUDITED *and* PASSED *by the Finance Committee*, but, notwithstanding that circumstance, the unusual, and, so far as I can learn, the (in that court) *unprecedented* motion was made, to *refer back those accounts to the Finance Committee*, on the pretence that they were *not accompanied by the required vouchers*. Even *that* motion was carried—exhibiting so severe a censure on the Coroner—*without one dissenting voice;* and, at the same time, another motion was adopted, for "the appointment of a committee of "magistrates to inquire into the cause of the "increase of inquests since the enactment of "the 1st and 2nd VICT., c. 68; and to re-"consider the schedule of fees now paid "under that statute, and to report generally."

The terms of this last mentioned motion were unexceptionable. It was right that such a committee should be appointed, such an inquiry instituted. It was right that the subject should be thoroughly investigated, and that the rate-payers of the county should be made acquainted with the results. But, undoubtedly, it was *not* right, it was anything but *right*, it was a gratuitous insult to me, a wanton and most unjust outrage on my integrity and official conduct, to refer back my account to the Finance Committee, after it had been *audited* and *passed* by that Committee, on the accusatory pretence that the items of charge were not supported by the necessary vouchers. I am speaking, of course, of the act of the magistrates with reference to *my* account solely, because I have no knowledge of the proceedings of the Coroner for the Eastern division of the county.

What had been done respecting my application? The clerk who had made out the charges for Mr. STIRLING during fifteen years, and who had always sent the vouchers with those charges, had also made out every one of the accounts for me which had been sent from my office to the magistrates; and had forwarded exactly and precisely the *same description of vouchers* as he had invariably transmitted with the accounts of Mr. STIRLING. Nothing can show more strongly than did the "referring" of my account back to the Finance Committee, on the plea of the "absence of necessary vouchers," how strong a feeling had been produced against me in the minds of the magistracy, by the abominable falsehoods and misrepresentaof the press.

I shall now lay before you the Report of the Magistrates who were appointed on the 10th ult, "to inquire into the causes of the increase of inquests," &c., prefacing it by stating, that I attended the Committee on Friday the 25th of October, in consequence of having received the following note from the clerk to the magistrates:—

"Sessions House, Clerkenwell,
22nd October, 1839.

"SIR:—The Committee for Accounts and for General Purposes wishing for explanation as to the necessity of holding inquests in several cases included in your last account (a list of which is forwarded on the other side), I am directed to request your attendance at a meeting of the Committee on Friday next, at eleven o'clock, at this place. I have the honour to be, Sir, your most obedient servant,

"CHARLES WRIGHT.

"To Thomas Wakley, Esq. M.P."

On being introduced to the Committee, I asked the chairman and his colleagues whether I was to regard this note as an act of courtesy to me on their part, or as a summons which I must obey under the Act of Victoria. At the same time I stated that I attended, willingly and cheerfully, to give them any explanation which they might require respecting the discharge of my official functions, as I courted nothing so much as their examination into my proceedings as Coroner. All that I required of them was, that inasmuch as they had no *right* to summon me before them, or enforce my attendance, they would consent to insert a protest in their minutes, of which the following is a copy:—

"Protest of Thomas Wakley, Coroner for Middlesex,

"Presented to the Magistrates composing the Committee of Accounts, in the Sessions-House, Clerkenwell, London, October 25th, 1839.

"I protest against the right of any Committee of Magistrates to call me before them, or to require from me any explanation as to the 'necessity of holding inquests' in any cases wherein I have presided as Coroner:

"Because no such power has been conferred either upon them, or upon any Committee, or upon the whole body of the Magistrates assembled in general or quarter sessions, either by prescription, or by any statute law of the realm."

Having thus prepared the ground for protecting my own rights and those of my contemporaries and successors in the office, I told them that I should answer their questions, as all must clearly understand, as an act of *courtesy*.

Mr. Laurie having moved that the "Protest" should be entered on the Minutes, the motion was carried without opposition, and the interrogatories were commenced and answered with cordiality. In short, the proceedings of the Committee throughout were conducted with the utmost urbanity.

The following is the Report of the Committee. It was presented to the Magistrates at the Court of Quarter Sessions on the 31st ult. The reading of the Report was followed by an interesting discussion, an account of which, compiled from the newspapers, and the notes of Mr. Bell, is subjoined:—

"TO HER MAJESTY'S JUSTICES OF THE PEACE IN QUARTER SESSIONS ASSEMBLED.

"The Committee to whom it was referred, on the 10th of October last, to inquire into the causes of the increase of inquests since the passing of the statute of the 1st of Victoria, c. 68, and to reconsider the schedule of fees now paid under that statute, and to report generally, have to report, that in pursuance of the order of reference, they directed their attention to the number of inquests which have been held since 1833, which are as follow:—

Years.	No. of Mr. Stirling's Inquests.	No. of Mr. Baker's Inquests.
1834 ..	521 ..	447
1835 ..	512 ..	506
1836 ..	536 ..	482
1837 ..	598 ..	602
1838 ..	736 ..	777

	Mr. Stirling and Mr. Wakley.	Mr. Baker.
1839 to Sept. 14 ..	408 ..	561

"The Committee requested the attendance of Mr. Baker and Mr. Wakley, the Coroners of this county, as well as that of Mr. Bell, who acted as clerk to the late Mr. Stirling for 15 years, and continues to act as clerk to Mr. Wakley. From the evidence of the Coroners and of Mr. Bell, the increase in the number of inquests is to be attributed in their opinions, to four causes:—

"1. To the vigilance of the police.

"2. To the registration of deaths.

"3. To the payment of medical witnesses under the provisions of the 6th and 7th William IV., c. 89.

"4. To the fees of constables.

"The Registration Act came into operation August 17, 1836; the act authorising the payment of medical witnesses at the same time; and the schedule of fees for the payment of witnesses and constables, was settled by this Court Nov. 7, 1837.

"Considering the very great increase which has taken place in the number of inquests since the date of these Acts of Parliament, the Committee concur in the opinion expressed by the Coroner and Mr. Bell, with reference to the three last causes; but they do not entirely agree with them in opinion as to the first. The attention of the police was necessarily drawn to the occurrence of violent or sudden deaths and casualties long before the period when the great increase in the number of inquests appears; and in January, 1835, an order was issued by the Commissioners, requiring the police to give notice to the Coroner and parochial authorities in all cases where an inquest was necessary.

"It further appeared from the evidence of Mr. Baker, that he considered himself bound by law to hold an inquest whenever he received notice to do so from a constable,

and that, in nine cases out of ten, such notices were left at his house while he was absent on the duties of his office. It is thus manifestly impossible for him, in a great majority of cases, to ascertain the propriety of granting his warrants from any previous inquiry, a practice which the Committee think is susceptible of amendment.

"The Committee conceive that a Coroner's inquest is a judicial inquiry, and not merely a medical investigation, and that in this, as in every other judicial inquiry, fair and reasonable grounds for its necessity should be shown previously to the inquiry being instituted, and they, therefore, think that it is the duty of the Coroners, before issuing their warrants for holding inquests, to institute such preliminary inquiries as to the circumstances of the death, as may be practicable in the exercise of a due diligence, for the purpose of ascertaining the necessity of the inquest, and it is stated by Mr. Bell that such was the practice of the late Mr. Stirling, and continues to be acted upon by Mr. Wakley, since his appointment, and that since February he has, in above 30 instances, refused to issue warrants for inquests which have been applied for, in consequence of having ascertained, from such preliminary inquiries, that those inquests were unnecessary. In this recommendation your Committee have no wish to interfere with the practice of the Coroner, except as it bears upon the number of inquests held, and the expense which it entails upon the county.

"The Committee have read the paper of instructions circulated by Mr. Wakley amongst the constables. With respect to so much of it as requires the constables to inform themselves of certain particulars touching the death of the party, for the purpose of enabling the Coroner to judge of the necessity of an inquest; the Committee consider them judicious and useful, and with respect to the other part, requiring constables to give notice to the Coroners in the several cases of death therein enumerated, the Committee offer no opinion, as they do not think that this Court can exercise any control over the Coroner, as to the cases when he may think right to hold an inquest, the power of this Court, in their judgment, being limited to deciding whether the inquests which have been held were necessary or unnecessary, and ordering or withholding the payment of the Coroner's fees accordingly. The Committee think, however, that they may be allowed to advert to one class of deaths, in which Mr. Wakley has stated to them, that it is his invariable and inflexible rule to hold inquests in every case, namely, in cases of sudden death, grounding his determination, not only on motives of public policy, but on the terms of the statute 4th Edward I., which directs the inquiry to be made upon such as 'be slain or suddenly dead or wounded.' The Committee would merely refer the court to the following commentary on this part of the statute, which is to be found in *East's Pleas of the Crown*, vol. 1, page 382:—'This power, however, is to be exercised within the limits of a sound discretion. There ought, at least, to be a reasonable suspicion that the party came to his death by violent or unnatural means; for if the death, however sudden, were from fever or other apparent visitation of God, there is no occasion, with the exception before mentioned, in case of prisoners, for the Coroner's interference.'

"The Committee, in the course of their inquiry, felt that it would be more satisfactory to the public if the duty of giving notice to the Coroners and summoning the juries, on the occurrence of deaths of a violent or sudden and suspicious nature, were discharged (within the limits of the metropolitan police force district of this county) by the superintendents of police, who must necessarily have the best means of information, within their respective divisions, in such circumstances, and who, from holding responsible public stations, would exercise both vigilance and a proper discretion in ascertaining the necessity of holding an inquest, which rests at present, in a great degree, on the judgment of the parish constables; and a communication to this effect was made to the Commissioners of Police, who expressed their willingness to render the services of the police available in giving notice to the Coroners; but on their submitting the application of the Committee to the proper quarter, it has not been thought expedient for the present that the police should undertake the further duty of summoning the juries.

"The Committee have revised the schedule of fees, allowances, and disbursements to be paid by the Coroners, pursuant to the Act 1st Victoria, c. 68, as settled by this court on the 7th of November, 1837, and they recommend that the fees and allowances thereby authorised to be paid to witnesses and constables, should be no longer paid to domestic servants, constables in the metropolitan police force, nor to parochial constables and officers receiving regular salaries or wages.

"In connection with this subject, the attention of the court is directed to the difference in the sums allowed by the two Coroners on each inquest. From the 1st of January, 1838, to the 14th of September, 1839, there have been 1,144 inquests held by Mr. Stirling and Mr. Wakley, and the aggregate expenses amounted to 1,150*l.* 12s. 10d., being on the average 1*l.* 0s. 3d. for each inquest. While, during the same period, there were 1,338 inquests held by Mr. Baker, and the aggregate expenses amounted to 2,039*l.* 18s. 3d., being on the average 1*l.* 11s. 2¼d. for each inquest.

Mr. Wakley, in his evidence, stated to the Committee that he never found any dissatisfaction expressed by witnesses or constables with the amount of their expenses; and, considering that the Coroner for the Western division must allow a greater sum to constables for mileage, in many instances, than is allowed in the other division, the Committee feel bound to state that they can discover no cause for so large an excess as one-third in the expenses allowed by Mr. Baker over those allowed by Mr. Wakley, and to express their opinion that a considerable reduction may be made for the future by that gentleman, without detriment to the due execution of his office, and with advantage to the rate-payers. The schedule of fees, &c., as amended by the Committee, is annexed to this Report. All which is submitted, &c.

"P. Laurie, Jun., Chairman."

The reading of the Report being concluded,

Sir Charles Forbes rose to suggest that a document which was of so much value should be forthwith printed, and circulated amongst the whole of the county magistrates. (Hear, hear.) He must, however, say, that there were some points in the Report which had created much surprise in his breast, and which he could neither adopt nor countenance. The court were told that, prior to holding an inquest, the Coroner ought to be compelled to make certain inquiries as to whether it was necessary to investigate the case. Now, he held a paper in his hand (Mr. Wakley's "Instructions to Constables," &c.) that contained a list of questions which he conceived to be exceedingly proper to be put to any constable who applied for a Coroner's warrant. But suppose the answers were not of a nature to satisfy the Coroner that an inquest ought to be held, was that officer bound to take further steps to ascertain whether there were better grounds for holding an inquest? If so, he could not help thinking that it would be advisable—

Sir John Scott Lillie—The Coroner was a magistrate.

The Chairman would set the gallant knight right. The Coroner was not a magistrate in the ordinary acceptation of the term, but a conservator of the peace.

Sir C. Forbes thought that a Coroner ought to be a magistrate. So proper did the questions of Mr. Wakley appear to him (Sir C. F.), that it was his opinion that if the Coroner adopted any other course, and declined to be satisfied with the answers of the constable, not only would the labour of the Coroner be most improperly doubled, but it must add materially to the charges on the county, in the making of other and additional inquiries. The inquest itself, in fact, was the proper field in which to make the inquiries into the cause of death. For that very purpose the Coroner was elected—(Hear, hear). He looked with great suspicion and unwillingness at any attempt which tended to discourage the holding of Coroners' inquests—(Hear, hear). On the contrary, he thought that every encouragement should be given by the magistrates to such inquiries, especially when it was considered how great was the number of deaths which were attended with circumstances of suspicion, as well as the vast extent to which they all knew that acts of crime were occasionally carried in every part of the country—(Hear, hear). It had been stated that there had been a large increase in the number of inquests. Let them increase. He hoped they would increase; and whether the increase cost one hundred pounds a year, or one thousand, what did that signify in comparison with the efficient working of the Coroner's office? It had also afforded a topic for much comment, that a considerable proportion of the verdicts in the inquests had been "Natural death," or "Died by the visitation of God." The latter fact he confessed he had heard with unmingled satisfaction, inasmuch as he considered it to argue to the credit of the parties holding the inquests, that by the closeness of the investigation, all doubt as to the cause of death had been removed—(Hear). As to an inquiry by that court, with a view to cut off the fees of the Coroner——

Mr. Armstrong said that the court had no power to cut off the fees, because the Coroners were paid under an Act of Parliament.

The Chairman said that the power of the court only extended to the fees which were paid to the summoning officers and witnesses.

Sir C. Forbes had thought it was otherwise, seeing that so much had been said on a former occasion about the amount of the Coroner's fees. There should be no discouragement offered by that court to the holding of inquests in England—(Hear). He was only sorry that there was not such an institution in Scotland, where the only thing approaching to it was a "precognition," held by the deputy-sheriff without any jury.

Sir J. S. Lillie. To that then was probably to be attributed the practice of burking, which had attained such a footing in Scotland—(Hear).

Sir C. Forbes said that, however bad Scotland had been in that point, it was notorious that her example had been followed by England—(Hear, hear). But he held it to be a reflection on the legislature that the system of Coroners' inquests had not been long ere this introduced into his country—(Hear). With respect to the Report, he would move "that it be printed, and circulated amongst the magistracy."

Mr. Laurie had great pleasure in second-

ing the motion of the worthy baronet, whom he could assure that the committee were equally jealous and unwilling to circumscribe the duties of the Coroner—(Hear, hear). But the committee had thought that it was an office which required to be watched, seeing also that its execution led to the expenditure of large sums of money. The committee felt that, if the Coroner was to make the preliminary inquiries, he would, instead of acting on his own sound discretion, become, as it were, the mere agent of the constable. [Mr. Laurie here made an attack on constables generally, as persons whose duty it was to give notice of sudden and violent deaths to the Coroners; but, as his remarks were *ex parte*, and not supported by evidence, it would be improper to repeat them.] Mr. Wakley had acted upon a different principle to that adopted by any of his predecessors, and he was bound to say, that that gentleman had marked out and acted on a course of proceeding of which it was impossible but to approve—(Hear, hear). What the committee wished, when he referred to the preliminary inquiry, was, that other Coroners would do the same, and then act on their discretion in holding an inquest. The questions which had been put by Mr. Wakley, in his "Instructions," the committee were of opinion were judicious; but then they thought that the Coroner ought to act with a discretionary power. The schedule of fees, as to witnesses and constables, had been altered, subject to the opinion of the court.

Sir JOHN SCOTT LILLIE said, that notwithstanding what had fallen from the learned gentleman (Mr. Laurie), he concurred with his hon. friend, Sir Charles Forbes, in believing that that court had no right to exercise a jurisdiction over the judicial proceedings of the Coroner, nor interfere in aught save the previous regulation of certain expenses attending upon the inquests he might hold. He must avail himself of that opportunity of expressing his regret that this subject had been brought forward for discussion upon the last court-day without the usual notice, and that animadversions had been made by some of the magistrates on the conduct of public officers who were absent, and unable to defend or exculpate themselves. He lamented that an attempt should thus have been made to create impressions on the public mind, through the medium of the press, to the prejudice of those who had as perfect a right to exercise their own discretion in performing their duties, as those magistrates who had thus endeavoured to convert that court into a place for the expression of their censure—(Hear, hear). This discussion was introduced by a certain reverend gentleman, who complained that one of the Coroners had disinterred a body without *his* permission, and, in fact, in direct opposition to *his* orders, thereby implying that the Coroner was wrong and that the clergyman was right. But had Mr. Wakley been governed on that occasion by the church instead of the law, he would have exposed himself to a serious penalty under the 3rd Henry VII., c. 1; and had the township not given notice of the death to the Coroner, or had the body been interred without such notice, the place would have been liable to a heavy amercement. It thus appeared that the Coroner was better acquainted with his duties than the reverend gentleman, who, nevertheless, had attempted to convert that court, which really had no jurisdiction whatever in the matter, into a medium of attack upon Mr. Wakley.

Mr. POWNALL objected to these observations being made on the reverend gentleman in his absence.

Sir JOHN SCOTT LILLIE observed that the gentleman alluded to had only that instant left the court. Had he thought proper to retire when he knew that this discussion would ensue, that was no fault of his (Sir John's). The jury, too, had also been attacked, as well as the Coroner, when both they and Mr. Wakley were absent. And not only on account of the disinterment, but they were causelessly animadverted upon for not having, as was alleged by the Vicar of Hendon, had evidence that the deceased was the same person as had received the scalding which had occasioned death. But what was the professed object of their charges against Mr. Wakley? Why, to save expense to the county, alleged to be increased by his holding unnecessary inquests. And how has the inquiry terminated? Honourably and satisfactorily to that gentleman. True, the charge of the Rev. Theodore Williams was attempted to be justified, and this inquiry sustained, by Mr. Laurie's financial comparisons between the expenses of 1836 (£1,177 13s. 1d.) and those of 1838 (£4,134 18s. 3d.), leaving the public to infer that this great difference was occasioned by some glaring misconduct in the Coroners; and although Mr. Laurie admitted that Mr. Wakley was really less to blame than the other Coroner (Mr. Baker), still he might have gone a step further, and at least stated that Mr. Wakley (who was more immediately attacked) had not been elected until the year succeeding 1838, and that, consequently, no share of this imputation could rest upon him, if it could rest anywhere. But even as regarded the other Coroner (Mr. Baker), in justice to that gentleman it should have been explained that this increase was only *seeming*, and had almost all fallen upon the county from the transfer of certain of the charges from parish funds to county funds—(Hear, hear). This, the real reason for the supposed increase of expense, ought to have been stated in that

On being introduced to the Committee, I asked the chairman and his colleagues whether I was to regard this note as an act of courtesy to me on their part, or as a summons which I must obey under the Act of Victoria. At the same time I stated that I attended, willingly and cheerfully, to give them any explanation which they might require respecting the discharge of my official functions, as I courted nothing so much as their examination into my proceedings as Coroner. All that I required of them was, that inasmuch as they had no *right* to summon me before them, or enforce my attendance, they would consent to insert a protest in their minutes, of which the following is a copy:—

"Protest of Thomas Wakley, Coroner for Middlesex,

"Presented to the Magistrates composing the Committee of Accounts, in the Sessions-House, Clerkenwell, London, October 25th, 1839.

"I protest against the right of any Committee of Magistrates to call me before them, or to require from me any explanation as to the 'necessity of holding inquests' in any cases wherein I have presided as Coroner:

"Because no such power has been conferred either upon them, or upon any Committee, or upon the whole body of the Magistrates assembled in general or quarter sessions, either by prescription, or by any statute law of the realm."

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The following is the Report of the Committee. It was presented to the Magistrates at the Court of Quarter Sessions on the 31st ult. The reading of the Report was followed by an interesting discussion, an account of which, compiled from the newspapers, and the notes of Mr. Bell, is subjoined:—

"TO HER MAJESTY'S JUSTICES OF THE PEACE IN QUARTER SESSIONS ASSEMBLED.

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"Considering the very great increase which has taken place in the number of inquests since the date of these Acts of Parliament, the Committee concur in the opinion expressed by the Coroner and Mr. Bell, with reference to the three last causes; but they do not entirely agree with them in opinion as to the first. The attention of the police was necessarily drawn to the occurrence of violent or sudden deaths and casualties long before the period when the great increase in the number of inquests appears; and in January, 1835, an order was issued by the Commissioners, requiring the police to give notice to the Coroner and parochial authorities in all cases where an inquest was necessary.

"It further appeared from the evidence of Mr. Baker, that he considered himself bound by law to hold an inquest whenever he received notice to do so from a constable,

and that, in nine cases out of ten, such notices were left at his house while he was absent on the duties of his office. It is thus manifestly impossible for him, in a great majority of cases, to ascertain the propriety of granting his warrants from any previous inquiry, a practice which the Committee think is susceptible of amendment.

"The Committee conceive that a Coroner's inquest is a judicial inquiry, and not merely a medical investigation, and that in this, as in every other judicial inquiry, fair and reasonable grounds for its necessity should be shown previously to the inquiry being instituted, and they, therefore, think that it is the duty of the Coroners, before issuing their warrants for holding inquests, to institute such preliminary inquiries as to the circumstances of the death, as may be practicable in the exercise of a due diligence, for the purpose of ascertaining the necessity of the inquest, and it is stated by Mr. Bell that such was the practice of the late Mr. Stirling, and continues to be acted upon by Mr. Wakley, since his appointment, and that since February he has, in above 30 instances, refused to issue warrants for inquests which have been applied for, in consequence of having ascertained, from such preliminary inquiries, that those inquests were unnecessary. In this recommendation your Committee have no wish to interfere with the practice of the Coroner, except as it bears upon the number of inquests held, and the expense which it entails upon the county.

"The Committee have read the paper of instructions circulated by Mr. Wakley amongst the constables. With respect to so much of it as requires the constables to inform themselves of certain particulars touching the death of the party, for the purpose of enabling the Coroner to judge of the necessity of an inquest; the Committee consider them judicious and useful, and with respect to the other part, requiring constables to give notice to the Coroners in the several cases of death therein enumerated, the Committee offer no opinion, as they do not think that this Court can exercise any control over the Coroner, as to the cases when he may think right to hold an inquest, the power of this Court, in their judgment, being limited to deciding whether the inquests which have been held were necessary or unnecessary, and ordering or withholding the payment of the Coroner's fees accordingly. The Committee think, however, that they may be allowed to advert to one class of deaths, in which Mr. Wakley has stated to them, that it is his invariable and inflexible rule to hold inquests in every case, namely, in cases of sudden death, grounding his determination, not only on motives of public policy, but on the terms of the statute 4th Edward I., which directs the inquiry to be made upon such as 'be slain or suddenly dead or wounded.' The Committee would merely refer the court to the following commentary on this part of the statute, which is to be found in *East's Pleas of the Crown*, vol. 1, page 382:—'This power, however, is to be exercised within the limits of a sound discretion. There ought, at least, to be a reasonable suspicion that the party came to his death by violent or unnatural means; for if the death, however sudden, were from fever or other apparent visitation of God, there is no occasion, with the exception before mentioned, in case of prisoners, for the Coroner's interference.'

"The Committee, in the course of their inquiry, felt that it would be more satisfactory to the public if the duty of giving notice to the Coroners and summoning the juries, on the occurrence of deaths of a violent or sudden and suspicious nature, were discharged (within the limits of the metropolitan police force district of this county) by the superintendents of police, who must necessarily have the best means of information, within their respective divisions, in such circumstances, and who, from holding responsible public stations, would exercise both vigilance and a proper discretion in ascertaining the necessity of holding an inquest, which rests at present, in a great degree, on the judgment of the parish constables; and a communication to this effect was made to the Commissioners of Police, who expressed their willingness to render the services of the police available in giving notice to the Coroners; but on their submitting the application of the Committee to the proper quarter, it has not been thought expedient for the present that the police should undertake the further duty of summoning the juries.

"The Committee have revised the schedule of fees, allowances, and disbursements to be paid by the Coroners, pursuant to the Act 1st Victoria, c. 68, as settled by this court on the 7th of November, 1837, and they recommend that the fees and allowances thereby authorised to be paid to witnesses and constables, should be no longer paid to domestic servants, constables in the metropolitan police force, nor to parochial constables and officers receiving regular salaries or wages.

"In connection with this subject, the attention of the court is directed to the difference in the sums allowed by the two Coroners on each inquest. From the 1st of January, 1838, to the 14th of September, 1839, there have been 1,144 inquests held by Mr. Stirling and Mr. Wakley, and the aggregate expenses amounted to 1,150*l.* 12s. 10d., being on the average 1*l.* 0s. 3d. for each inquest. While, during the same period, there were 1,338 inquests held by Mr. Baker, and the aggregate expenses amounted to 2,039*l.* 18s. 3d., being on the average 1*l.* 11s. 2¼d. for each inquest.

Mr. Wakley, in his evidence, stated to the Committee that he never found any dissatisfaction expressed by witnesses or constables with the amount of their expenses; and, considering that the Coroner for the Western division must allow a greater sum to constables for mileage, in many instances, than is allowed in the other division, the Committee feel bound to state that they can discover no cause for so large an excess as one-third in the expenses allowed by Mr. Baker over those allowed by Mr. Wakley, and to express their opinion that a considerable reduction may be made for the future by that gentleman, without detriment to the due execution of his office, and with advantage to the rate-payers. The schedule of fees, &c., as amended by the Committee, is annexed to this Report. All which is submitted, &c.

"P. Laurie, Jun., Chairman."

The reading of the Report being concluded,

Sir Charles Forbes rose to suggest that a document which was of so much value should be forthwith printed, and circulated amongst the whole of the county magistrates. (Hear, hear.) He must, however, say, that there were some points in the Report which had created much surprise in his breast, and which he could neither adopt nor countenance. The court were told that, prior to holding an inquest, the Coroner ought to be compelled to make certain inquiries as to whether it was necessary to investigate the case. Now, he held a paper in his hand (Mr. Wakley's "Instructions to Constables," &c.) that contained a list of questions which he conceived to be exceedingly proper to be put to any constable who applied for a Coroner's warrant. But suppose the answers were not of a nature to satisfy the Coroner that an inquest ought to be held, was that officer bound to take further steps to ascertain whether there were better grounds for holding an inquest? If so, he could not help thinking that it would be advisable—

Sir John Scott Lillie—The Coroner was a magistrate.

The Chairman would set the gallant knight right. The Coroner was not a magistrate in the ordinary acceptation of the term, but a conservator of the peace.

Sir C. Forbes thought that a Coroner ought to be a magistrate. So proper did the questions of Mr. Wakley appear to him (Sir C. F.), that it was his opinion that if the Coroner adopted any other course, and declined to be satisfied with the answers of the constable, not only would the labour of the Coroner be most improperly doubled, but it must add materially to the charges on the county, in the making of other and additional inquiries. The inquest itself, in fact, was the proper field in which to make the inquiries into the cause of death. For that very purpose the Coroner was elected—(Hear, hear). He looked with great suspicion and unwillingness at any attempt which tended to discourage the holding of Coroners' inquests—(Hear, hear). On the contrary, he thought that every encouragement should be given by the magistrates to such inquiries, especially when it was considered how great was the number of deaths which were attended with circumstances of suspicion, as well as the vast extent to which they all knew that acts of crime were occasionally carried in every part of the country—(Hear, hear). It had been stated that there had been a large increase in the number of inquests. Let them increase. He hoped they would increase; and whether the increase cost one hundred pounds a-year, or one thousand, what did that signify in comparison with the efficient working of the Coroner's office? It had also afforded a topic for much comment, that a considerable proportion of the verdicts in the inquests had been "Natural death," or "Died by the visitation of God." The latter fact he confessed he had heard with unmingled satisfaction, inasmuch as he considered it to argue to the credit of the parties holding the inquests, that by the closeness of the investigation, all doubt as to the cause of death had been removed—(Hear). As to an inquiry by that court, with a view to cut off the fees of the Coroner——

Mr. Armstrong said that the court had no power to cut off the fees, because the Coroners were paid under an Act of Parliament.

The Chairman said that the power of the court only extended to the fees which were paid to the summoning officers and witnesses.

Sir C. Forbes had thought it was otherwise, seeing that so much had been said on a former occasion about the amount of the Coroner's fees. There should be no discouragement offered by that court to the holding of inquests in England—(Hear). He was only sorry that there was not such an institution in Scotland, where the only thing approaching to it was a "precognition," held by the deputy-sheriff without any jury.

Sir J. S. Lillie. To that then was probably to be attributed the practice of burking, which had attained such a footing in Scotland—(Hear).

Sir C. Forbes said that, however bad Scotland had been in that point, it was notorious that her example had been followed by England—(Hear, hear). But he held it to be a reflection on the legislature that the system of Coroners' inquests had not been long ere this introduced into his country—(Hear). With respect to the Report, he would move "that it be printed, and circulated amongst the magistracy."

Mr. Laurie had great pleasure in second-

ing the motion of the worthy baronet, whom he could assure that the committee were equally jealous and unwilling to circumscribe the duties of the Coroner—(Hear, hear). But the committee had thought that it was an office which required to be watched, seeing also that its execution led to the expenditure of large sums of money. The committee felt that, if the Coroner was to make the preliminary inquiries, he would, instead of acting on his own sound discretion, become, as it were, the mere agent of the constable. [Mr. Laurie here made an attack on constables generally, as persons whose duty it was to give notice of sudden and violent deaths to the Coroners; but, as his remarks were *ex parte*, and not supported by evidence, it would be improper to repeat them.] Mr. Wakley had acted upon a different principle to that adopted by any of his predecessors, and he was bound to say, that that gentleman had marked out and acted on a course of proceeding of which it was impossible but to approve—(Hear, hear). What the committee wished, when he referred to the preliminary inquiry, was, that other Coroners would do the same, and then act on their discretion in holding an inquest. The questions which had been put by Mr. Wakley, in his "Instructions," the committee were of opinion were judicious; but then they thought that the Coroner ought to act with a discretionary power. The schedule of fees, as to witnesses and constables, had been altered, subject to the opinion of the court.

Sir JOHN SCOTT LILLIE said, that notwithstanding what had fallen from the learned gentleman (Mr. Laurie), he concurred with his hon. friend, Sir Charles Forbes, in believing that that court had no right to exercise a jurisdiction over the judicial proceedings of the Coroner, nor interfere in aught save the previous regulation of certain expenses attending upon the inquests he might hold. He must avail himself of that opportunity of expressing his regret that this subject had been brought forward for discussion upon the last court-day without the usual notice, and that animadversions had been made by some of the magistrates on the conduct of public officers who were absent, and unable to defend or exculpate themselves. He lamented that an attempt should thus have been made to create impressions on the public mind, through the medium of the press, to the prejudice of those who had as perfect a right to exercise their own discretion in performing their duties, as those magistrates who had thus endeavoured to convert that court into a place for the expression of their censure—(Hear, hear). This discussion was introduced by a certain reverend gentleman, who complained that one of the Coroners had disinterred a body without *his* permission, and, in fact, in direct opposition to *his* orders, thereby implying that the Coroner was wrong and that the clergyman was right. But had Mr. Wakley been governed on that occasion by the church instead of the law, he would have exposed himself to a serious penalty under the 3rd Henry VII., c. 1; and had the township not given notice of the death to the Coroner, or had the body been interred without such notice, the place would have been liable to a heavy amercement. It thus appeared that the Coroner was better acquainted with his duties than the reverend gentleman, who, nevertheless, had attempted to convert that court, which really had no jurisdiction whatever in the matter, into a medium of attack upon Mr. Wakley.

Mr. POWNALL objected to these observations being made on the reverend gentleman in his absence.

Sir JOHN SCOTT LILLIE observed that the gentleman alluded to had only that instant left the court. Had he thought proper to retire when he knew that this discussion would ensue, that was no fault of his (Sir John's). The jury, too, had also been attacked, as well as the Coroner, when both they and Mr. Wakley were absent. And not only on account of the disinterment, but they were causelessly animadverted upon for not having, as was alleged by the Vicar of Hendon, had evidence that the deceased was the same person as had received the scalding which had occasioned death. But what was the professed object of their charges against Mr. Wakley? Why, to save expense to the county, alleged to be increased by his holding unnecessary inquests. And how has the inquiry terminated? Honourably and satisfactorily to that gentleman. True, the charge of the Rev. Theodore Williams was attempted to be justified, and this inquiry sustained, by Mr. Laurie's financial comparisons between the expenses of 1836 (£1,177 13s. 1d.) and those of 1838 (£4,134 18s. 3d.), leaving the public to infer that this great difference was occasioned by some glaring misconduct in the Coroners; and although Mr. Laurie admitted that Mr. Wakley was really less to blame than the other Coroner (Mr. Baker), still he might have gone a step further, and at least stated that Mr. Wakley (who was more immediately attacked) had not been elected until the year succeeding 1838, and that, consequently, no share of this imputation could rest upon him, if it could rest anywhere. But even as regarded the other Coroner (Mr. Baker), in justice to that gentleman it should have been explained that this increase was only *seeming*, and had almost all fallen upon the county from the transfer of certain of the charges from parish funds to county funds—(Hear, hear). This, the real reason for the supposed increase of expense, ought to have been stated in that

court. True, there might have been an increase of *inquests* in the county, but——

The CHAIRMAN apologized for interrupting the gallant officer. He had just been informed by some magistrate on his right, that the charges formerly paid out of the poor-rate were always trifling.

Sir J. S. LILLIE replied that he had that moment, also, had handed to him, a note, the contents of which, on being read, fully bore out his statement respecting the poor-rate, and not only so, but showed that such changes had in many cases far exceeded even his (Sir John's) computation. He concluded by hoping that as this matter had terminated by a refutation of every insinuation against Mr. Wakley, so that his brother magistrates would in future be more cautious in making that Court the medium of unmerited attacks on public officers, over whom they had not even a pretence of jurisdiction, especially when those officers were absent, and unable to defend themselves.—(Hear, hear.)

Mr. LAURIE would put the gallant knight right with respect to the increase of inquests. This had not been attributed to the course adopted by the coroners themselves, but was mentioned as being simultaneous with the increase of fees paid to the summoning officers.

Mr. GIBSON said, that he must bear testimony to the satisfactory manner in which the labours of the Committee had terminated. They had entered upon the inquiry with a strong impression that many more inquests had been held than were necessary, but they were happy to say that the explanations given by the coroners, particularly by Mr. Wakley, had entirely removed the feelings and opinions they had entertained. Indeed, it was his opinion that many more inquests than had been held might be taken with advantage to the public, and that the Coroner, instead of being limited in his means of instituting such inquiries in general, ought to have better means than seemed at present to exist of obtaining information as to the cases in which he should act.

Mr. TULK, M.P., wished to say, that it never was intended by commencing this inquiry to cast any slur on the conduct of the Coroners, and the Committee had distinctly found that the number of inquests which had been held in the County was not excessive. They wished the necessity for holding inquests to be left to the judgment of the Coroners themselves, though, as to the payments required to be made by the county, the magistrates had, he considered, a right to question the grounds on which particular inquests were held, before paying the Coroner's fee, or repaying the expences which the Coroner had paid out of pocket in conducting the inquiry. But as regarded the present inquiry the Committee did not consider that the Coroners had acted in any way that could be considered as grasping or avaricious.

Sir JAMES WILLIAMS agreed with Mr. Tulk that whether or not slur was intended to be cast on the Coroners, the Committee had found no room for slur. Indeed, he was satisfied that the law did not allow the magistrates to exercise any control over the discretion of the Coroners in appointing inquests. He was glad, in fact, that the law did not permit such interference, for the changes in the Poor-Law of late years had rendered it most important that the inmates of the workhouses, and the poor of the unions, should have the full protection of the Coroner. It would be most dangerous to the community, to the poor especially, to curtail his power.

Mr. ARMSTRONG said, that the most ample and candid explanations relating to the inquests had been given to the Committee. He would particularly refer to the fact that Mr. Wakley was in the habit of instituting preliminary inquiries when applications were made for warrants to hold inquests, and that in consequence of this precaution he had refrained from holding inquests in a great number of cases where they would have been taken had he adopted the plan pursued in the Eastern division of the county, Mr. Baker having told the Committee that he was accustomed, as a matter of course, to grant warrants whenever application was made for them by constables, for which Mr. Baker considered that he had the authority and command of the law. The care in this respect taken by the Coroner for the Western division evinced great integrity of purpose. He hoped, in conclusion, that the number of verdicts of "Natural Death," would, from the completeness of the inquiries at inquests, be, for the future, materially diminished.

The motion that the Report be received, adopted, printed, circulated, and taken into further consideration on the next county-day, was then put and agreed to.

There! Such is already my reward, and such is the exposure of the paltry scribes of a factious political press. On the 10th of October, when the attack was first directed against me in the Sessions-House, not one of the magistrates uttered a word in my defence. On the 31st, after a full inquiry into my official conduct had terminated, I had not an opponent in the Court.

In my first address to you, I animadverted on the conduct of the magistrates with much severity. The injustice which I had suffered made me feel acutely, and my remarks on gentlemen who had accused me in my ab-

sence, and without inquiry, and who had condemned me without hearing my defence, were certainly not characterised by any nice or softened expressions. It is now proved that the majority of those gentlemen had been completely misled by the falsehoods of anonymous writers in the newspapers, and manfully and honourably they have come to the rescue of a public officer who has been unjustly assailed. They thus stand before the public acquitted of every improper motive in this transaction, and I am bound to state that, in my intercourse with them in the Committee, their behaviour throughout manifested only a praiseworthy desire to ascertain the facts of the case which they had been required to investigate. The result is found in the "REPORT" and discussion which I have just submitted to your consideration. The magistrates of this county, in vindicating themselves against the imputation of having been actuated by improper or illiberal motives, have not only succeeded by their recent straightforward conduct in clearing themselves from so severe a reproach, but have also rescued my official conduct from the attacks and misrepresentations by which it had been so perseveringly assailed.

The debateable matters which are contained in the Report, and in the speeches of the magistrates, will be noticed by me in my future letters, and in their proper places.

I have the honour to be,

Gentlemen,

Your faithful and obedient servant,

THOMAS WAKLEY.

PROPOSED MEETING OF THE UNIVERSITY CANDIDATES.

To the Editor of THE LANCET.

SIR :—The following circumstances have rendered it impracticable to comply with the wish of your correspondent, "ANOTHER UNFORTUNATE M.B.," whose letter appeared in THE LANCET of Oct. 5th. The writer of that letter proposed, that a meeting of the eight candidates at the July examination at the University of London, should be "called together, as their addresses might easily be got at their respective schools, to talk over matters, and to consider the propriety of an address from them to the Board." It appears, on inquiry, that of the eight gentlemen in question, six are so situated that their presence could not be expected at the deliberation. One of them is now in China, another is at Edinburgh, the addresses of two others are not known, one has, in disgust at his treatment, and, with a sense of the worthlessness of the diploma, refused to receive it at all, after having paid the fees; and another, despairing to obtain justice, has put up with the Bachelor's diploma. Thus, the writer of the letter in THE LANCET, and Mr. Mackenzie, are the only gentlemen who could attend, and their determination now is understood to be, to await the appointment of a Select Committee of the House of Commons, to inquire into the circumstances of the examination, and the decision of the Board, in the next Session of Parliament, when such a Committee will probably be moved for, either by a well-informed member of the lower house, or by Lord Brougham (long life to him!) in the House of Lords, where the opportunity would at once be afforded of obtaining from Lord Burlington, the Chancellor of the University, some information relating to the examination, which, it is said, will astonish the educated men of Europe, who will marvel at the kind of persons who are medical examiners in the great University of England, and their qualifications, in point of learning and character, to fill the important offices which they have contrived to fill. The secrets connected with the matter will prove extraordinary to the public, when they come forth, whether in the debates or in the Committee. It would, already, be worth while for some of the more respectable of the examiners to hear how, at *Oxford*, they laugh at the *new "liberal" University of London!* At venerable Oxford it has become a by-word.

I remain, Sir,

Your very obedient servant,

MEDICUS.

London, Oct. 23, 1839.

A Treatise on the Nature of Club-foot and Analogous Distortions, &c. By W. J. Little, M.D. Jeffs, London. 1839. 8vo. pp. 276.

The favour which charlatans have ever found in the eyes of this liberal and enlightened nation, contributes, in no small degree, to retard the process of medical science. On the Continent of Europe there are, indeed, quacks in abundance; but no where, save in England, do we find whole branches of the healing art seized by, and made the property of, the most ignorant pretenders to medical knowledge. We have, on more than one occasion, shown that charlatans generally endeavour to appropriate to themselves certain operations or modes of treatment of diseases which have been, comparatively speaking, neglected by the regularly educated medical practitioners; hence, we hail with particular pleasure, any work of a scientific man which is calculated to diffuse a general knowledge of complaints that have been hitherto neglected, or allowed to remain in the hands of ignorant peripatetics.

The treatise of Dr. Little is of this latter class; it contains the most ample information on distortions of the foot, a species of malady which, as our readers well know, is, even at the time we write, submitted to the care of carpenters and coblers.

We have already published so much on the subject of club-foot, that we deem it to be unnecessary to take any other than a general view of Dr. Little's treatise. It contains, as we have already remarked, a most comprehensive and complete description of the causes, varieties, and treatment, of club-foot. The history of this distortion is sketched in a well written introduction, which extends to 62 pages. The varieties, morbid anatomy, causes, and treatment of club-foot, are then succinctly described in 40 pages, and the bulk of the volume is made up of a detailed account of 36 cases, which extends to no less than 234 pages. The letter-press is illustrated by more than forty well executed engravings on wood.

We cannot but commend the perseverance with which Dr. Little has diffused a knowledge of the new treatment of club-foot and analogous distortions. We recommend his treatise to the attention of surgeons and heads of families, but we cannot help thinking that its utility would have been very considerably increased had the bulk been reduced to one-fourth of its present magnitude. The Stromeyrian operation is one of the simplest in surgery; the after-treatment is also simple, being founded on a few plain principles which are clearly described by Dr. Little, in a sufficiently brief space. Were other surgical operations and other points in medicine treated, on Dr. Little's scale, in proportion to their importance, we should soon require a general Alexandrine conflagration to make room for the contributions of our descendants.

A Treatise on the Diseases of the Heart and Great Vessels, and on the Affections which may be mistaken for them, &c. By John Hope, M.D. Third Edition. Churchill, London. 1839. 8vo. pp. 639.

The first edition of Dr. Hope's Treatise on Diseases of the Heart was published, we believe, in the year 1832. A third edition has been called for after a lapse of seven years. This may be *primâ facie* evidence of the excellence of the work; for however the medical public may be gulled by arts which are well known to a certain class of writers, it seldom happens that more than a temporary patronage is extended to treatises which do not possess some permanent claims to our attention.

We do not propose to enter upon any lengthened examination of Dr. Hope's Treatise on the Diseases of the Heart. It has been before the public for a sufficient length of time to allow medical men to form a mature estimation of its merits or demerits, and public opinion has been expressed in its favour, and we feel bound to say that on carefully examining this, the third edition, we consider it to be an useful treatise.

Having thus delivered a general opinion on Dr. Hope's work, it merely remains for us to point out some of the original matter which has been added to the present volume. The additions amount, on the whole, to nearly one-third of the entire volume, and will be found under the sections devoted to valvular and other murmurs; the signs of softening; of adipose disease of the heart; abdominal aneurisms; sympathetic affections of the heart, with their diagnosis; and conditions of the pulse as indicating diseases of the heart.

In a series of critical notes Dr. Hope has, with a firm, unsparing hand, shorn some of the Continental writers on diseases of the heart, of their borrowed plumes, and particularly M. Bouillaud. The Gascon self-complacency of this latter writer in attributing to himself the discovery of facts which had been previously published by Drs. Latham, Elliotson, and Stokes, is exposed in its proper light, although Dr. Hope might have displayed a little more temper in his criticisms.

When, however, an author finds that the fruit of long and laborious researches is about to be appropriated by another, we can pardon some acrimony of feeling and expression. A literary thief we deem to be the vilest of all animals. The few hearty cuffs which Dr. Hope inflicts on the real or supposed defrauders of his fame, show that he is at least sincere and zealous on his own behalf.

BRITISH MEDICAL ASSOCIATION.

November 5th.

Dr. WEBSTER in the Chair.

The minutes of the last meeting having been read,

Dr. Rowley, of King William-street, was unanimously elected a member of the Association.

Dr. P. Mollison, of Australia, and Dr. John Christie, of Beaufort, Cape of Good Hope, were unanimously elected corresponding members of the Association.

Mr. EVANS, having brought under the notice of the Council one of the passing schemes of the day, called "The Sanatorium," moved, and Mr. DAVIDSON seconded, "That a special meeting of the Council be summoned, for Wednesday, the 13th November next, at a quarter before eight o'clock precisely, to take into their serious consideration the effects of the proposed Sanatorium upon the profession and the public morals, and that Mr. Pilcher, Dr. Southwood Smith, and Mr. Grainger be particularly requested to attend the meeting."

The motion, after considerable discussion, in which all the members present joined, was carried.

A letter was read from Dr. Maunsell, of Dublin.

The following letter was next read from Wm. Wood, Esq., of Edinburgh:—

Edinburgh, October 21st, 1839.

SIR:—I have submitted the correspondence betwixt you and myself on the subject of Medical Reform to the Joint Committee of the Medical Faculty of the University, and Colleges of Physicians and Surgeons of this city; and I am instructed by them to state to you, for the information of the British Medical Association, that, in reference to that correspondence, and the proceedings of the Association upon October 7th, as published in THE LANCET of the 12th, in which it is observed, that the Association have opened a correspondence with this Committee; the Committee are unanimously of opinion, that it is equally inexpedient and impracticable to attempt any measure of reform in medical education, and the right of medical practice, which does not proceed upon the basis of securing, on the one hand, uniformity of right of practice, with equality of qualification; and on the other, the continuance of existing medical institutions; and likewise of their privileges, as far as may be found compatible with the objects mentioned above. I am, Sir, your obedient servant,

WILLIAM WOOD,
Convenor of the Joint Committee.

To Dr. WEBSTER,
Pres. of the British Medical Association.

The meeting then adjourned until Tuesday evening, the 19th instant.

ROYAL COLLEGE OF SURGEONS IN LONDON.

THE following regulations have been recently issued by the Council respecting the professional education of candidates for the diploma:—

I.

Candidates will be required, in addition to a certificate of being not less than twenty-one years of age, to bring proof,

1. Of having been engaged in the acquirement of professional knowledge during a period of not less than four years; six months of which shall have been occupied in the study of practical pharmacy, six months by attendance on the practice of physic, and the remainder of the period on the practice of surgery, at a recognised hospital or hospitals in the United Kingdom; three months being allowed for a vacation in each year.

2. Of having studied anatomy and physiology, by attendance on lectures and demonstrations, and by dissections, during three anatomical seasons or sessions*:— and of

* An anatomical season is understood to extend from October to April inclusive, and to comprise at least 140 lectures on anatomy and physiology, occupying not less than one hour each, given on separate days; and at least 100 demonstrations of the like duration, given in a similar manner; exclusive of dissections, of which distinct certificates are required.

having attended at least two courses of lectures on the principles and practice of surgery, delivered in two distinct periods or seasons, each course comprising not less than 70 lectures; and one course of not fewer than 70 lectures, on each of the following subjects, viz., the practice of physic, chemistry, materia medica, and midwifery with practical instruction.

II.

Members and licentiates in surgery of any legally constituted College of Surgeons in the United Kingdom, and graduates in surgery of any University requiring residence to obtain degrees, will be admitted for examination on producing their diploma, license, or degree, together with proofs of being twenty-one years of age, and of having been occupied at least four years in the acquirement of professional knowledge.

III.

Graduates in medicine of any legally constituted College or University requiring residence to obtain degrees, will be admitted for examination on adducing, together with their diploma or degree, proof of having completed the anatomical and surgcial education required by the foregoing regulations.

IV.

Certificates will not be recognised from any hospital unless the surgeons thereto be members of one of the legally constituted College of Surgeons in the United Kingdom; nor from any school of medicine or midwifery, unless the respective teachers be members of some legally constituted College of Physicians or surgeons in the United Kingdom; nor from any school of anatomy or surgery in England, unless the respective teachers be members of some legally constituted College of Physicians or surgeons in the United Kingdom, and have undergone a second or special examination on those branches of science according to the Ordinances of this College relating thereto.

V.

Certificates will not be received on more than one branch of science from one and the same lecturer: but anatomy and physiology —demonstrations and dissections, will be respectively considered as one branch of science.

N.B. In the certificates of attendance on hospital practice and on lectures, it is required that the dates of commencement and termination may be inserted in words at length.

Blank forms of the required certificates may be obtained on application to the secretary, to whom they must be delivered, properly filled up, ten days before the candidate can be admitted to examination; and all such certificates are retained at the College.

August 20, 1839.

FRAUDULENT ABSTRACTION OF DIPLOMAS.—ILLIBERALITY OF THE COLLEGE OF SURGEONS AND APOTHECARIES' HALL.

Messrs. Roycraft and Bastone present their compliments to the Editor of The Lancet, and beg to inform him, from information which they have derived from the proper authorities, that it is impossible for them to obtain fresh diplomas or certificates in return for those fraudulently obtained at The Lancet office. In order to prevent the swindler from assuming their names, they deem it necessary to avail themselves of The Lancet in making this fact as public as possible. (Signed)

John Roycraft, 32, Great Wild-street, Lincoln's-Inn Fields.

Frederick Bastone, 30, Upper Eburystreet, Pimlico.

London, Nov. 2, 1839.

APOTHECARIES' COMPANY V. GREENHOUGH.

A rule to move for a new trial in this case, on the ground of misdirection by Baron Maule, has been granted by the Court of Queen's Bench.

Dr. Ashburner has been elected physician-accoucheur to the Middlesex Hospital, as successor to the late Dr. Sweetman.

LITERARY INTELLIGENCE.

Mr. Churchill will shortly publish a popular work on Midwifery, illustrated by numerous engravings executed in the most careful manner. This work will put an extinguisher on the two-penny trash of the Bloomsbury "phenomenon."

BOOKS RECEIVED.

The Medical Jurisprudence of Insanity, by T. Ray, M.D.; with an introductory Essay, by Dr. Spillan. London, Henderson, 1839, 8vo.

Müller's Elements of Physiology, translated by William Baly, M.D. Second edition, Part I. London, Taylor and Walton, 1839, 8vo.

CORRESPONDENTS.

Justitia should address his complaints to Rhubarb Hall. We have no interest in sustaining the Act of 1815.

An Inquirer and *Z.* No.

Letters received from *Mr. Brighton* and *Mr. Hayden.*

The malignant attack alluded to by *Dr. Spillan*, is totally beneath our notice.

Errata.—No. 843, page 156, col. 2, line 21, for "dyspuda" read *dyspnœa*; line 42, for "pedunale" read *peduncle*; page 158, col. 1, line 2, for "perfect" read *future*; page 159, col. 1, line 23, for "referrable" read *referrible*; page 161, col. 1, line 1, for "friction" read *traction*; page 164, col. 1, line 7, for "three" read *ten*; page 165, col. 1, line 8, for "caustica" read *cuvities.*